

# Enterprise Recycling & Disposal Facility

Angelo's Aggregate Materials, Ltd.

Pending Modification Permit Nos. 0177892-005-SO/MM and  
0177982-006-SC/MM

Pasco County

## Response to Requests for Additional Information

Prepared by:

Tetra Tech / Hartman & Associates, Inc.

HAI #99.0331.016

File 13.2

### Includes:

1. Minor Modification to Construction and Operation Permit dated 08/05/2004, received 08/04/2004;
2. Response to Request for Additional Information dated 09/08/2004, received 10/08/2004

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Angelo's Aggregate Materials, Ltd.**

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and 0177982-006-SC/MM  
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# TETRA TECH / HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## EXECUTIVE TEAM:

Ald C. Hartman, P.E., DEE  
Harold E. Schmidt, Jr., P.E., DEE  
James E. Christopher, P.E.  
Charles W. Drake, P.G.  
Mark A. Rynning, P.E., M.B.A.  
William D. Musser, P.E., P.H.  
Lawrence E. Jenkins, P.S.M.

## SENIOR ASSOCIATES:

Marco H. Rocca, C.M.C.  
Roderick K. Cashe, P.E.  
Douglas P. Dufresne, P.G.  
Jon D. Fox, P.E.  
Troy E. Layton, P.E., DEE  
Daniel M. Nelson, P.E.

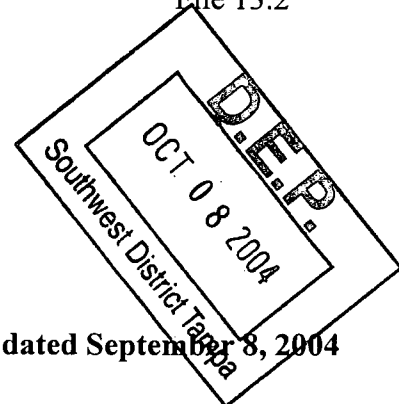
## ASSOCIATES:

Les H. Porterfield, P.E.  
Andrew T. Woodcock, P.E., M.B.A.  
John P. Toomey, P.E.  
Jennifer L. Woodall, P.E.  
Rafael A. Terrero, P.E., DEE  
Jill M. Hudkins, P.E.  
Valerie C. Davis, P.G.  
Charles M. Shultz, P.E.  
Sean M. Parks, AICP, QEP  
C. Michelle Gaylord  
Tara L. Hollis, C.P.A., M.B.A.  
W. Bruce Lafrenz, P.G.  
Alexis K. Stewart, P.E.  
Christopher W. Hardin, P.E.  
James R. Warner, E.I.

October 6, 2004

HAI# 99.0331.016

File 13.2



Ms. Simone Core, P.E.  
Florida Department of Environmental Protection  
Solid Waste Section  
3804 Coconut Palm Drive  
Tampa, Florida 33619

**Subject: Response to Request for Additional Information, dated September 8, 2004  
Enterprise Recycling & Disposal Facility  
Pending Modification Nos.: 0177982-005-SO/MM and 0177982-006-SC/MM  
Pasco County, Florida**

Dear Ms. Core:

On behalf of Angelo's Aggregate Materials, Ltd. (Angelo's), Tetra Tech/Hartman & Associates, Inc. (HAI) is submitting responses to your request for additional information, dated September 8, 2004, regarding the minor modification requests for the construction and operation permits for the above facility. New report text is indicated by underline and deleted report text is indicated by strikethrough for your ease of review. Your comments are stated first with our responses following.

### Comments from Simone Core

1. The requested information and comments below do not repeat the information submitted by the applicant. However, every effort has been made to concisely refer to the section, page, drawing detail number, etc. where the information has been presented in the original submittal.

**Response:** Acknowledged.

2. Please submit four (4) copies of all requested information. Please specify if revised information is intended to supplement, or replace, previously submitted information. Please submit all revised plans and reports as a complete package. For revisions to the narrative reports, deletions may be struckthrough (~~struckthrough~~) and additions may be

Ms. Simone Core, P.E.  
October 6, 2004  
Page 2

shaded **Shaded** or similar notation method. This format will expedite the review process. Please include revision date on all revised pages.

**Response:** The attached revised documents are in the requested format.

3. Please provide a summary of all revisions to drawings, and indicate the revision on each of the applicable plan sheets. Please use a consistent numbering system for drawings. If new sheets must be added to the original plan set, please use the same numbering system with a prefix or suffix to indicate the sheet was an addition, e.g. Sheet 1A, 1B, P1-A, etc.

**Response:** The attached revised documents are in the requested format.

4. Please be advised that although some comments do not explicitly request additional information, the intent of all comments shall be to request revised calculations, narrative, technical specifications, QA documentation, plan sheets, clarification to the item, and/or other information as appropriate. Please be reminded that all calculations must be signed and sealed by the registered professional engineer (or geologist as appropriate) who prepared them.

**Response:** Acknowledged.

5. Please provide a letter signed by Dominic Iafrate authorizing Craig Bryan to act on behalf of Angelo's Aggregate Materials, Ltd.

**Response:** Craig Bryan is no longer employed by Angelo's. Please see the attached revised application page.

6. Please address the comments in John Morris' September 2, 2004 memorandum (attached) regarding the groundwater monitoring at the site.

**Response:** Responses to comments from John Morris are included in this submittal.

7. The stormwater permit modification does not indicate that a portion of Cell 5 will be a part of the temporary pond. Please address.

**Response:** The revised stormwater permit does not mention the small portion of Cell 5. However, the drawings indicate that the very north portion of Cell 5 is included in the proposed



pond. Additionally, excavation in this area will be necessary to provide a slope from existing land surface to the top of bank of the pond.

8. The cover sheet for the engineering report does not contain the impressed seal of a professional engineer. [Rule 62-701.320(7)(d)1, F.A.C.]

**Response:** A photocopy of the signed and sealed cover sheet was inadvertently inserted into the report. The attached report has an original signed and sealed cover sheet.

9. Your response indicates that the 6-foot chain link fence is installed around the northern property boundary. However, Section 3.6 indicates that the 6-foot security fence has been constructed along only the south and east boundaries. Your response is also inconsistent with the site plan. Please address.

**Response:** Section 3.6 of the Engineering Report and the Site Plan are correct regarding the location of the chain link fence. The response incorrectly referenced the northern boundary.

10. The drawing and table showing the base elevation for each of the cells to be filled in sequence 1 and 2 were not provided. In addition, please note that the July 2003 groundwater sampling event showed an inferred contour line of 75.9 feet NGVD rather than 71.5 feet. The April 2004 groundwater sampling event showed a 71.5 feet NGVD ground water contour line in the vicinity of Cell 1. Please revise your response to this item. In addition, please re-evaluate the results of the total and differential settlement of the foundation soils to determine if the proposed bottom elevations of the cells will be above the new SHGWT.

**Response:** A table and drawing were not included because no changes to the overall approved cell floor base grades were proposed, and the base grades were indicated on prior submittals. Sheet C-2 and Figure 3-17 show the excavation base grades. However, since so much data has been requested on these Figures, it becomes difficult to include all contours, as they begin to overlap. HAI has revised Sheet C-2 and Figure 3-17 to include the previous excavation contours for the cells in Sequences 1 and 2. The table below summarizes the approximate permitted base elevations for the cells in Sequences 1 and 2.

HAI acknowledges that the previous response to this comment misstated the inferred groundwater contour in the July 2003 initial monitoring report for the vicinity of Cell 1 as 71.5 feet NGVD, rather than 75.9 feet NGVD.

Cell	Approximate Range of Permitted Base Elevation, ft NGVD
1	82-80
2	82-81.3
3	82-81.3
4	81.7-80
5	81.6-80
14	80
15	80
16	80

HAI has reviewed the initial settlement analysis prepared by Universal Engineering Sciences from the original permit application submittal. The results of the calculations indicated "total settlement of the foundation soil was estimated to be on the order of magnitude of one inch...expected to decrease to zero at the toe of the landfill slope...differential settlement within the foundation soil from the crest to the toe of the proposed landfill design section is expected to be less than one inch." Rainfall during the summer of 2003 was unusually high, which accounts for the higher groundwater elevations at that time. HAI believes the approved estimated seasonal high groundwater table is still accurate.

11. Response acknowledged.
12. Figure C-2 indicates that all the cells to be filled in sequences 1 and 2 will be at a base elevation of 82 feet NGVD. However, the cross-sections shown in Figures 3-26, 3-27 and 3-28 indicate that some cells will have a base elevation of 80 feet NGVD. Please revise the appropriate drawing accordingly.

**Response:** Please see the first paragraph of the response to Comment 10.

13. Please revise Section 3.7 to indicate that "acceptable permeability and proctor test results" is considered "less than  $1 \times 10^{-6}$  cm/sec in a continuous layer of at least 36 inches in thickness" as indicated in your original cover letter dated June 15, 2004. In addition, please specify a numerical value(s) for acceptable optimal moisture content in this section of the Engineering Report.

**Response:** Section 3.7 has been revised to state that acceptable test results means the results of the laboratory proctor and permeability tests indicate that the permeability of the material

Ms. Simone Core, P.E.

October 6, 2004

Page 5

meets the requirements of the construction permit, and the optimum moisture content is not too high for the equipment to manage. A numeric range for acceptable optimal moisture content, based on the proctor tests available for the on-site soils, has been added.

14. Through 16. Response acknowledged.

17. Sheet C-1 is not valid for illustrating the cell closure sequence since the sequence of cell closure no longer follows the cell numbers. Please provide a revised drawing using a different notation to illustrate cell closure sequence.

**Response:** A new notation has been assigned to sections of the landfill to indicate cell closure phasing. The notation is used through Sequence 2 only since no additional sequences are currently permitted for operation, and the fill sequence of the remainder of the landfill is still to be determined. The new phasing is illustrated on Figure 3-18A.

18. GP-6 is shown as located inside stormwater pond 3 in Figure 1A. Please address.

**Response:** The previous response to this comment stated that GP-6 would be moved to the north to avoid future overlap with Pond 3. The referenced figure has been revised to illustrate the relocated gas probe.

19. Response acknowledged.

20. Response acknowledged.

21. Your response indicates that the 6-foot chain link fence is installed around the northern property boundary. However, Section 2.3 indicates that the 6-foot security fence has been constructed along only the south and east boundaries. Your response is also inconsistent with the site plan. Please address.

**Response:** Section 2.3 of the Operations Plan and the Site Plan are correct regarding the location of the chain link fence. The response incorrectly referenced the northern boundary.

22. Please indicate how vectors and odors will be controlled to allow for storage of putrescible waste for seven days.

Ms. Simone Core, P.E.

October 6, 2004

Page 6

**Response:** The previous response to this comment, and the text of Section 5.3, state that inadvertently accepted putrescible would be stored in a leak proof container with a lid. This will minimize odor generation and vector access to the putrescible items.

23. Response acknowledged.

24. Please identify on Figures 3-17 and 3-18, the location of the roll-offs for unacceptable waste, the yard waste processing area, recycling area and equipment maintenance area.

**Response:** Containers for inadvertently accepted Class I waste are kept near the working face, which changes regularly. The roll-offs for scrap metal and other separated materials are located near the central portion of Cell 3. Yard waste is not currently processed, but is staged in the vicinity of Cells 7 and 8. These approximate locations have been added to Figures 3-17 and 3-18. The equipment maintenance facility is intended for future use and the location will be determined at that time.

25. Figure 3-17 indicates that all the cells to be filled in sequences 1 and 2 will be at a base elevation of 82 feet NGVD. However, the cross-sections shown in Figures 3-26, 3-27 and 3-28 indicate that some cells will have a base elevation of 80 feet NGVD. Please revise the appropriate drawing accordingly.

**Response:** Please see the first paragraph of the response to Comment 10.

26. Through 28. Response acknowledged.

29. Figure 3-18 has not been revised to show the paved parking, gatehouse and septic tank as "existing".

**Response:** The appropriate existing facilities have been added to Figure 3-18.

30. Response acknowledged.

#### Comments from John Morris

Comment 1: The response acknowledged the review comment that described the intention to modify Specific Condition Nos. 30 and 32.b., of permit No. 177982-002-SO to list only those wells that will be required to be included in the routine sampling events for each of the cells in revised Sequence Nos. 1 and 2. No additional information is requested.

Ms. Simone Core, P.E.

October 6, 2004

Page 7

**Response:** Acknowledged.

Comment 2: The HAI response included revisions to Section 3.3 of the "Engineering Report" and Section 19.1 of the "Operations Plan" that indicated the supply well shall be added to the routine monitoring events upon the initiation of waste disposal in Cell No.2. The HAI response also included Figure 1A ("Well Location Map") that provided the location of the supply well. No additional information is requested.

**Response:** Acknowledged.

Comment 3: The HAI response indicated that the surficial aquifer is seasonally present at the locations of wells MW-8, MW-9, and MW-10. No additional information is requested.

**Response:** Acknowledged.

Comment 4: The HAI response proposed to install monitor wells completed in the upper Floridan aquifer at locations adjacent to existing wells MW-8, MW-9, and MW-10. The HAI response also provided descriptions of lithology encountered at borings B-8, B-9, and B-10 installed adjacent to these referenced wells. In addition, the HAI response indicated that the requested justification of construction details for the proposed monitor wells was provided by the boring logs and the proposed monitor well construction diagram (Figure 2). However, it appears that insufficient information was submitted to provide the requested justification for the construction of the proposed wells. Please submit responses to the following items:

- a. Proposed Well MW-8B – the boring log designated B-8 encountered a limestone lens at a depth of 34.9 feet below grade but appeared to encounter sandy clay and silty, sandy clay to the depth of investigation at 45 feet below grade. The proposed construction details provided on Figure 2 appear to indicate the well will be constructed with 15 feet of screen at depths between 45 and 60 feet below grade. Please submit the rationale used to select this screen interval to monitor the upper Floridan aquifer at this location.

**Response:** The design of monitor well MW-8B was based on previous Floridan aquifer wells and piezometers at the site, and using the lithology descriptions from boring B-8. Prior to installing any additional monitor wells at the subject site, HAI will install a pilot SPT boring to identify the subsurface lithology. Specifically HAI geologists will aim to identify the thickness of the confining unit above the Floridan aquifer (limestone), and design the monitor well

Ms. Simone Core, P.E.

October 6, 2004

Page 8

accordingly. The use of 15-foot well screens on the design of the upper Floridan monitor wells is due to the large fluctuations in historical groundwater levels at the site. Groundwater levels taken at monitor well MW-7B (nearest Floridan aquifer well to the proposed wells) showed a fluctuation of over 4-feet over a six-month period. Table 1 has been included for your review; this table represents groundwater elevations (NGVD) from June 2003 to December 2003, and during the semi-annual groundwater sampling events for each monitor well and piezometer at the site.

- b. Proposed Well MW-10B – the boring log designated B-10 encountered limestone fragments in silty, clayey sand at intervals of 34.5 to 35 feet below grade and 38.5 to 40 feet below grade, noted hard drilling at a depth of about 41 feet below grade, and described limestone in the split spoon sample driven at a depth interval of 42 feet below grade. The proposed construction details provided on Figure 2 appear to indicate the well will be constructed with 15 feet of screen at depths between 35 and 50 feet below grade. Please submit the rationale used to select this screen interval to monitor the upper Floridan aquifer at this location.

**Response:** Please refer to above response as justification for the design specifications and the use of a 15-foot screen at monitor well MW-10B.

- c. Proposed Wells MW-8B, MW-9B, MW-10B – Please submit supplemental information that provides elevations for land surface, top of the well screen and bottom of the well screen for each location.

**Response:** The completion of SPT pilot borings at the proposed monitor well locations will enable us to make final adjustments to the monitor well designs. Top of casing elevations and top of concrete pad elevations have been provided for each monitor well installed at the site. This data was used to create approximate land surface, top of well screen, and bottom of well screen elevations for each location. Due to the variable geology at the site, final design and installation of monitor wells is not recommended without drilling a pilot boring at the proposed location. If significant variations to the proposed monitor wells are required due to subsurface geology, an HAI geologist will contact your department to discuss and notify of the proposed changes.

- d. Proposed Wells MW-8B, MW-9B, and MW-10B – Please submit supplemental information that provides the seasonal range of groundwater elevations in the upper Floridan aquifer anticipated for each location. Please compare the information provided in Section 5.2.4, Figure 14.1 and Figure 14.2 of the

Ms. Simone Core, P.E.  
October 6, 2004  
Page 9


"Hydrogeological Investigation and Groundwater Monitoring Plan" (Section 5 of the permit application submittal, revised April 3, 2001) with the results of the initial and routine sampling events conducted at the facility, and submit revisions to the description of site-specific groundwater flow direction in the upper Floridan aquifer at the facility, if appropriate. Please submit additional description of the rationale used to select 15 feet of well screen (or 15 feet of open hole if cavernous conditions are encountered) based on the anticipated range of groundwater elevations for each location.

**Response:** Supplemental information showing the fluctuation in groundwater levels is provided in Table 1. This table shows groundwater elevations from June 2003 to December 2003 and during the semi-annual groundwater monitoring events at the site. Figure 14.1 of the "Hydrogeological Investigation Groundwater Monitoring Plan" (Section 5 of the permit application submittal, revised April 2, 2001) shows groundwater elevations of approximately 58.20 feet NGVD at the location of the proposed Floridan aquifer wells. When comparing the Floridan aquifer groundwater elevations in March 2001 to the Floridan aquifer groundwater elevations today, a variation of over 12 feet is observed. Due to such drastic fluctuations in groundwater elevations at the site, we recommend 15 feet of well screen on each Floridan monitor well.

We trust this information is sufficient to satisfy the Department's comments and allow issuance of the minor permit modification. Please call us if you have any questions.

Very truly yours,

**Tetra Tech/Hartman & Associates, Inc.**

  
Jennifer L. Deal, P.E. 10/6/04  
Project Manager

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Attachments

Addressee (4)

cc: Dominic Iafrate, Angelo's  
Jeff Rogers, Angelo's

REVISED APPLICATION SIGNATURE PAGE



T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Angelo's Aggregate Materials, Ltd. is aware that statements made in this form and attached

information are an application for a Class III Landfill Permit from the Florida Department of Environmental Protection and certifies that the information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Dominic Iafrate  
Signature of Applicant or Agent

Dominic Iafrate, President  
Name and Title (please type)

diafrate@iafrate.com  
E-Mail address (if available)

1755 20th Avenue S.E.  
Mailing Address

Largo, FL 33771  
City, State, Zip Code

(727) 581-1544  
Telephone Number

Date: Oct 7, 2004

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

[Signature]  
Signature  
L. Deal, P.E.  
Name and Title (please type)

58592  
Florida Registration Number  
(please affix seal)

201 E. Pine Street, Ste. 1000  
Mailing Address

Orlando, FL 32801  
City, State, Zip Code

jld@consulthai.com  
E-Mail address (if available)

(407) 839-3955  
Telephone Number

Date: Oct 7, 2004

REVISED ENGINEERING REPORT

**SECTION 3**

**ENGINEERING REPORT**

**ENTERPRISE RECYCLING & DISPOSAL FACILITY  
4111 ENTERPRISE ROAD  
DADE CITY, FLORIDA 33525**

**PREPARED FOR:**

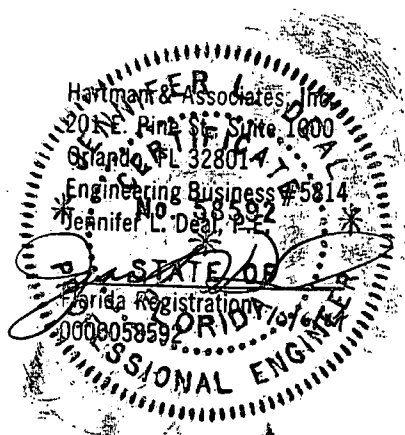
**ANGELO'S AGGREGATE MATERIALS, LTD.**

**PREPARED BY:**

**TETRA TECH/HARTMAN & ASSOCIATES, INC.  
201 E. Pine Street, Suite 1000  
Orlando, Florida 32801**

**OCTOBER 2004**

**HAI# 99.0331.016**



## SECTION 3 ENGINEERING REPORT

### 3.1 GENERAL

The purpose of this Engineering Report is to describe the subject site and Class III landfill design to meet the requirements of FAC 62-701 and Pasco County's Land Development Code (LDC). Appendices to this report include: 3-A Operations Plan and 3-B Contingency Plan.

### 3.2 SITE LOCATION AND DESCRIPTION

The facility receives approximately 1,500 tons of Class III waste per day from Pasco County and other surrounding Counties (Hernando, Hillsborough and Polk). Based on the 1999 Florida Statistical Abstract, the estimated populations for these counties total 1,929,360 people in 2004. Assuming an annual growth rate of 1%, the five-year projection population would be 2,027,776.

The subject site is located in Section 5 and 8, Township 25 South, Range 22 East, in Pasco County, Florida, as shown on the United States Geological Survey (USGS) quadrangle map presented in Figure 3-1. More specifically, it is located at the intersection of Enterprise Road and Auton Road southeast of Dade City, Florida. The site is currently used for orange groves and developed pastureland and occupies approximately 160 acres of land on the northside of Enterprise Road. The square property is approximately 2,640 feet on a side and is located in the southwest quarter of Section 5 and the northwest quarter of Section 8.

There are no airports within 5 miles of the site, see Figure 3-1.

#### 3.2.1 Prohibition Compliance

In order to comply with Rule 62-701.300, FAC, the Facility will abide by the following:

- The Facility will not dispose of solid waste at the proposed site until proper permitting is obtained.

- As shown in the site location map Figure 3-1, and the Geotechnical Report, Section 4, disposal of solid waste will not occur in areas that are: unable to provide support for the waste; geological formation or subsurface features would allow unimpeded discharge to surface water on groundwater; are within 500 feet of an existing potable water well; are within a dewatered pit; are in a frequently flooded area; are in a body of water; are within 200 feet of a surface water body that discharges offsite; are on a right of way; are within 1000 feet of an existing community potable water well; or are within 3000 ft. of Class 1 surface waters.
- Open burning will not occur on the site unless the burning takes place in a permitted air curtain incinerator.
- Hazardous wastes, PCB's, biohazardous wastes, special wastes, liquids, and oily wastes will not be disposed of at the Facility. Random load checks and the use of spotters at the working face will ensure that these wastes are not placed for disposal at the Facility.

### 3.3 SURROUNDING LAND USES AND ZONING

Figure 3-2 presents a recent aerial photograph map depicting the surrounding land uses and designated Pasco County zoning in the site vicinity. Agricultural land uses surround the site and a few scattered residences surround the site. All adjoining properties are zoned A-2. To the north is the closed East Pasco County Class I Sanitary Landfill and a residence. To the east is an old borrow pit and agricultural land. South of the site is agricultural land and orange groves, and to the west are orange groves which are also owned by Sid Larkin & Son, Inc.

Current site zoning designation, A-2 with a conditional use, is consistent with the Class III landfill use. Water supply wells within 1 mile of the site are provided in Appendix 5-E. The water supply well location survey is based on existing information and an infield survey. The 500-foot setback from the approved landfill footprint to the private potable wells appears to be met, pursuant to FAC 62-701.300(2)(C).

Angelo's has submitted an application to the SWFWMD to use an on-site irrigation well for potable purposes. The SWFWMD well construction permit (No. 688944.01) requires that this well be included in the routine sampling events in accordance with Specific Condition No. 32.b., of permit No. 177982-002-SO when the disposal cells become less than 500 feet from the

wellhead. Semi-annual monitoring of this well will be required once disposal operations begin in Cell 2.

### 3.4 TOPOGRAPHY

According to the USGS 7.5 minute quadrangle map shown in Figure 3-1, the land surface of the subject site has elevations ranging from 85 feet to 175 feet National Geodetic Vertical Datum (NGVD). Natural land surface generally slopes to the northeast on the northern half of the property and southeast on the southern half of the site. A recent site-specific topographic survey is shown on Figure 3-3. The topography of the northern half of the property was obtained from two-foot contour maps provided by the Southwest Florida Water Management District. The topography on the southern half of the property was obtained from an onsite topographic survey.

#### 3.4.1 100-Year Flood Prone Areas

Figure 3-4 depicts a 100-year flood prone area map from the U.S. Federal Emergency Management Administration for the subject vicinity. As shown, the site is not impacted by an estimated 100-year storm flood.

### 3.5 SOILS

According to the Soil Survey of Pasco County, Florida, published by the U.S. Department of Agriculture Soil Conservation Services (USDA-SCS), the majority of the subject site and surrounding areas are covered by fine sands. A copy of the USDA-SCS Soils Survey Map showing the mapped areas of the major soil types at the subject site and its vicinity is presented in Figure 3-5.

USDA-SCS soil type 12 - Astatula fine sands encompass a small portion in the northeast portion of the site. Astatula sands are nearly level to gently sloping, and excessively drained mainly in the sandhills. Seasonal high water table (SHWT) is typically at a depth of 72 inches in Astatula soil. The permeability is very rapid throughout the soil. Both the available water capacity and natural fertility of the Astatula soil are low.

USDA soil type 32 - Lake fine sands comprise the majority of the soils found on the property. These soils are nearly level to gently sloping and excessively well drained. They occur along

ridgetops and on low hillsides in the uplands. Permeability is rapid throughout the soil and the water table is below a depth of 120 inches. The available water capacity is very low in all layers and the natural fertility and organic matter content are both low.

USDA soil type 72 - Orlando fine sands are found in a small area in the northeast portion of the property. These soils are nearly level to gently sloping and well drained. The water table is typically at a depth greater than 72 inches with permeability of the soil rapid throughout. The available water capacity is low in the surface layer and very low in the other layers.

### 3.6 LANDFILL SITE IMPROVEMENTS

The 160-acre landfill site is also currently being operated as orange groves and improved pastures. The following site improvements have been installed to meet landfill operational requirements.

#### 3.6.1 Entrance Facilities

An office trailer (gatehouse) is located onsite for the gate attendant. This trailer will have hand washing and toilet facilities. The trailer will be served via the on-site potable water supply well. Electric and telephone services will also be available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Site Plan provided as Figure 3-6. (C-1).

#### 3.6.2 Roads

The primary haul route to reach the Enterprise Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R.35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R.35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R.35A to the entrance of what will be the active portion of the landfill. Enterprise RDF will maintain this access road to provide adequate access.

Access roads to the working face will be constructed from on-site soils and/or recovered materials such as concrete and asphalt. This will be done on an as needed basis.

### 3.6.3 Effective Barrier

The existing Enterprise property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence consists of a 6-foot high-galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. The chain link fence was installed within 90 days of permit issuance. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters will be installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-foot high berm has been constructed along the site's frontage to Enterprise and Auton roads, see Figure 3-11 (C-6). The required County, and FDEP setbacks will be surveyed in and marked upon permit issuance.

### 3.6.4 Weighing or Measuring Incoming Waste

A scale system is used as shown on the Site Plan. The scale will be calibrated prior to use and every six (6) months, thereafter. Trucks will be weighed as entering the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste material disposed will be determined and the appropriate fee assessed. The scale was operable prior to the first day of operation.

### 3.6.5 Vehicle Traffic Control and Unloading

Generally, truck traffic will be controlled by first in - first out, as directed by the working face spotter when and where to dump. There will be adequate space for truck staging at the site's gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mine truck traffic vs. landfill truck traffic to their appropriate areas of the site.



### 3.7 EXCAVATION OPERATIONS AND CELL CONSTRUCTION

The soils on the site will be excavated and removed for road base and filling operations. A Pasco County permit has been received which allows an excavation setback of 200 feet and a restoration slope of 6H:1V. Figure 3-7 (C-2) presents the phasing of the landfilling/excavation operation at the Enterprise facility. Based on setbacks of 200 feet, a landfill/excavation base ranging from 80 to 86 feet NGVD (at least 5 feet above seasonal high water table), existing topography, and landfill excavation slope of 2H:1V, we estimated the existing soil available for excavation operations to be approximately 4,351,700 cyds. The approximate rate of soil removal from the site will be 400,000 cyds per year, but may vary depending on market conditions.

Excavation slopes will not exceed 6H:1V pursuant to the Pasco County permit; however, once an excavation phase is complete, a portion of the excavated soils from the mining operation will be used as landfill construction material. An estimated 800,000 cyds of soils will be reserved to provide adequate cover material for the landfill operation. A slope stability analysis is discussed in Section 3.8.1 and Section 4 - Geotechnical Report.

The first excavations will take place in Phase 1/Cell 16, Phase 2/Cell 15, and Phase 3/Cell 1, in the in the Northeast corner. This area served as the original temporary stormwater pond. Excavation will continue towards the south into Phase 3/Cell 1, and will follow the sequence shown in Figure 3-7 (C-2). Modification of the temporary stormwater pond is described in Section 3.10.3.

As new cells are constructed, the cell will be excavated to approximately three-feet below the approved excavation base grade. Stockpiled confining material, obtained from on-site excavation, will be sampled for laboratory proctor testing for use as cell floor material to construct a three-foot thick continuous confining layer. Material with acceptable permeability and proctor test results will be placed into the constructed cell in three lifts, and compacted by multiple passes with a 40,000 lb, D-6 Dozer, or equivalent. Acceptable test results means the results of the laboratory proctor and permeability tests indicate that the permeability of the material meets the requirements of the construction permit ( $1 \times 10^{-6}$  cm/s), and the optimum moisture content is not too high for the equipment to manage. Optimum moisute content for the on-site stockpiles has been approximately 13 to 20 percent. The dozer will compact the material in the bottom of the excavation and up the side slopes into the dozer track marks. After each lift is compacted with the dozer, a 12-ton, 84-inch vibratory sheeps-foot roller, or equivalent, will be

used to roll the material. The daily activities will be recorded, including any the tie-in locations, thickness of each compacted lift, verification of the compaction and moisture content testing, verification of equipment used for compaction, and verification of dozer tracks at the tie-in surfaces (no smooth surfaces). Field logs and photographs documenting the field work will be provided to the Department. A topographic survey will confirm the finished floor grades.

Excavation will be such that 2H:1V slopes will only be encountered on the outer edge boundaries of the cells. A 3H:1V working face slope, beginning at the 2H:1V slope face, will be used for landfilling the waste. Ample space shall be maintained between the working face and the 6H:1V excavation slope of the adjacent cell to allow for a berm and stormwater conveyance, as shown in the sequencing figures, 3-17 through 3-22.

The current working cell shall be overcut by 50 feet in order to provide for truck traffic and stormwater transport to the temporary pond. A six (6) foot wide berm will prevent stormwater from entering the working face. An open channel will transport stormwater to the temporary pond. See Figure 3-12, (G-1).

### 3.8 METHOD OF CELL SEQUENCE

The landfill operation will progress in a series of cells as shown on Figure 3-6 (C-1). Cell No. 1 will begin at the east portion of the site with material placed against the east slope with the first lift consisting of 10 feet deep fill. Cell No. 1 will then continue to the south along the east bank and extend approximately 550 feet out from the west slope. Each lift will be compacted as the waste is placed in the cell. The access road will be relocated to provide access to the next cell. The cell landfilling will continue in similar fashion until the cell reaches a height of one-half of the vertical height of the slope. Some areas of the cells may have partial lifts, based on these elevations. The working face shall not exceed a slope of 3H:1V and a width of 100 feet along the side slopes, however, once the waste elevation reaches a height of 125 feet, NGVD, the working face slope shall not exceed 4H:1V. Cell closure will commence immediately after cell completion. Within 120 days of Cell No. 1 completion, the final 3 feet cover of soil will be placed and compacted to a minimum of 1.5 feet barrier layer with 18 inches of soil that will sustain vegetation, and vegetated, see Closure Plan. The stormwater retention pond (Pond 1) will be constructed at this time, see SWMP Section 6. The north and west sides of completed Cell No. 1 stormwater will drain to the temporary pond, in the northeast corner of the site.

Cell #15 is the next 560-foot strip to the north of Cell #1. Cell sequencing will continue to the north (through Cell #15) and then move to the west and south portions of the filled areas for Cells 2 to 5. Completion of cells 14, 16, and a portion of Cell 5 will entail filling the northeast temporary retention pond once the floor of the pond has been built up with clean debris or clean fill to the landfill base elevation of 80 feet NGVD in this portion of the landfill. The ponds constructed for completed cells within the buffer areas will approximately replace the stormwater capacity of the northeast temporary pond.

The sequence of filling operations are as follows (see Figures 3-17 through 3-18):

- Sequence 1      Fill Cells 1, 15, & 2 four 10-12' lifts (125').  
                    Final cover to be placed on outer slopes as constructed above grade.
- Sequence 2      Fill Cell 3 four 10-12' lifts (125'), against Cell 2 slope.  
                    Final cover to be placed on outer slopes as constructed above grade.  
                    Fill Cell 4 four 10-12' lifts (125'), against Cell 1 and 3 slopes.  
                    Fill portion of Cell 5 four 10-12' lifts (125'), against Cell 4 and 15 slopes.  
                    Fill Cells 2 and 3 three 10' lifts (155'), final cover on outer above grade slopes.  
                    Fill Cells 1 and 4 three 10' lifts (155'), final cover on outer above grade slopes.  
                    Fill Cells 15 and 5 three 10' lifts (155'), final cover on outer above grade slopes.
- Sequence 3      To be determined.
- Sequence 4      To be determined.
- Sequence 5      To be determined.
- Sequence 6      To be determined.
- Sequence 7      To be determined.  
                    Complete final closure of landfill.

Waste filling for Sequences 3 through 7 will be proposed during the permit renewal period. This is due to changing market conditions for sale of soils and limited ability to excavate and stockpile on-site soils.

Lift height includes cover material. Due to the landfill bottom elevation, some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.
- Stormwater will be diverted to the onsite temporary storage pond until the latter part of the landfill life when Cells 14 & 16 begin to accept waste.

#### 3.8.1 Vertical Expansion

The landfill is permitted to be completed from 125 to 170 feet NGVD. The final grading plan is shown on Figure 3-10 (C-5). The finished grade will extend the existing hill eastward. The interior temporary side slopes will be no greater than a 6H:1V slope and a series of swales and other stormwater conveyance will be used to prevent side slope erosion, see Section 6.

The top (30H:1V) and side slope (4H:1V) designs provide for proper drainage and minimize rainfall infiltration into the landfill surface.

#### 3.8.2 Erosion Control

The landfill's cell construction plan calls for the excavation of the existing sand mine at 6H:1V sidewall slopes of the pit to a 2H:1V slope for the outer cell boundaries prior to landfilling each

cell. This slope can be safely maintained as supported by the Slope Stability Analysis, in the Geotechnical Report, Section 4.0. The 2H:1V excavation would not be initiated until the cell is ready to receive waste materials, and then the outer edge slope will first receive waste. This will minimize the time frame that a 2H:1V slope is exposed to the elements. The following engineering controls will be used to minimize erosion:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.
- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the regrading of the slope, begin to fill against the 2H:1V slope with the landfill material. As a minimum, the fill should be placed to a height of one-half the vertical height of the slope and at a 3H:1V slope or flatter.
- When the 100 linear feet of slope is backfilled with landfill material to one-half the vertical height of the slope, the same procedure can be followed for another 100 linear feet until the landfill is complete.

See Geotechnical Report, Section 4.0 for more details.

If blowing sand becomes a problem, silt fences will be installed at the top of the 2H:1V side slope along the temporary berm/ditch.

### 3.8.3 Life Expectancy

Adequate soil stocks will be maintained to provide the soil cover material for closure activities (approximately 800,000 cyds). The calculated volume of each of the proposed landfill cells and sequencing is presented on the attached Table 1 of this submittal. At the proposed waste disposal rate, based on similar landfill's quarterly reports to the County, the landfill will dispose of

approximately 459,000 cyds per year of non-compacted Class III materials; which corresponds to approximately 270,000 cyds of compacted wastes (1.7:1 ratio) as placed in the landfill. This calculates to roughly two (2) lifts across a cell per year or a maximum of approximately two, 6-acre, 10-foot, lifts per year. If this rate continues, we estimate that the life of each cell is approximately 2 years. Sequences 1 and 2 will be permitted first for landfilling.

Therefore, based upon the calculated volume of landfill space available, the landfill has an estimated life expectancy of 30 years at projected disposal volumes and compaction rates.

### 3.9 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compatibility. Bulky, incompressible items shall be separated and reduced as appropriate by the chipper/crusher and disposed of or recycled. The remaining debris is disposed of in designated "cells" using onsite equipment to place the debris and a Rex 370-C Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The amount of weekly cover material required for the design life of the landfill is estimated to be approximately 400,000 cyds. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion (see Figure C-1 for an illustration of the cell closure sequence and Figure C-3 for final cover design of the Class III landfill site). Those landfill cells within the eastern half of the landfill will be temporarily closed until a second tier of cells are filled on top to planned grade, see Sheet C-5.

A final cover of three (3) feet of compacted soil will be placed upon closed cells, see Closure Plan, Section 7. Cell closure shall conform to the grades and lines specified in the grading plan. The grading plan shall conform to the rules and regulation specified in 62-701.600, Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may be required in the closed cell areas.

### 3.10 DESIGN OF GAS, LEACHATE AND STORMWATER CONTROLS

#### 3.10.1 Gas Monitoring and Control

The type of material to be disposed in the Class III Landfill is not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact. Therefore, no active gas control systems or venting is proposed. However, because biodegradable waste will be accepted, a passive gas control system is proposed, see section 3.10.1.5. The Enterprise RDF site Manager will conduct daily surveys of the landfill for objectionable odors or gas and notify the County of any positive detection and immediately take corrective actions. Quarterly gas point monitoring is currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

##### 3.10.1.1 Gas Probe Locations

Gas monitoring points are spaced approximately 600 linear feet apart surrounding the landfill. Figure 3-13 presents these locations of the gas probes surrounding the landfill.

After reviewing the sites' geology and topographic maps for any high permeability or low areas that might accumulate methane, we found no significant low areas, nor any geologic heterogeneities that would cause us to locate gas probes at potential accumulation locations surrounding the landfill or at closer spacing than proposed. Therefore, a total of 16 gas monitoring probes will be installed throughout the subject landfill site. The gas probes are to be placed no farther than 25 feet from the toe of the landfill.

##### 3.10.1.2 Gas Probe Design

Attached Figure 3-14 presents our gas probe design for the subject landfill site. These gas probes are designed to be surface sealed and to provide a greater permeability than the surrounding sediments to act as collector points for any methane gas, if present. Based on the landfill design, we have designed all of the gas probes to each be typically 20-foot in depth with an 18-foot open

screen for the monitoring point. This depth will allow the screened interval to intercept the full cross-section of the landfilled waste that could potentially generate methane.

The groundwater table is approximately at a 50-foot depth below land surface (bls) across most of the site, so these gas probes are not designed to intercept the groundwater table. The polyvinyl chloride plastic pipe (PVC), Schedule-40 was selected as the material of choice for these wells since it is basically inert to any attack from landfill gases and most other landfilled materials. The PVC casing and screen will be flush-threaded and have a screen slot size large enough to accommodate easy methane extraction from the monitoring point. The sand/bentonite slurry proposed for a surface seal shall be a blend of 4 parts of sand to one part of granular bentonite. The sand and the bentonite shall be mixed dry and hydrated immediately prior to placing it in the annular space of the borehole. The gas probe points are proposed to be installed by hollow-stem auger to construct an eight-inch borehole to be filled with pea gravel. The pea gravel shall meet the requirements of FDOT standard size No. 10 aggregate washed pea gravel. Each gas probe will be protected by a surface mounted well protector and locked for security purposes. Each gas probe will terminate at the surface with a PVC ball valve to accommodate easy monitoring of methane levels, with a portable meter. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded.

#### 3.10.1.3 Methane Gas Measurement

In accordance with the subject landfill closure permits, methane gas levels will be monitored at each of the 16 gas monitoring points quarterly and submitted to the FDEP for review. A portable explosimeter, or lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D, Operations Plan, presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air and percent LEL. The reporting action level for methane in air will be considered 5 percent by volume in air as measured by the lower explosive limit. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two



weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

#### 3.10.1.4 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL or greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise RDF operator will institute measurement of methane in nearby structures, i.e., stormwater collection points, or any maintenance or office buildings nearby the subject gas probe until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from any nearby structures and may include monthly monitoring measurements at the high methane gas probe points until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the LEL.

#### 3.10.1.5 Passive Gas Vents

Within 90 days of closure of each landfill cell, a passive landfill gas vent will be installed at the highest point of the cell to prevent explosions, fires and damages to vegetation from methane gas buildup. Figure 3-15 shows the location of the 16 gas vents and Figure 3-16 presents the design of a typical vent. The facility's gas emissions are expected to be far below the threshold of a Title V or an NSPS permit.

#### 3.10.2 Leachate Control

Liquid disposal is not permitted at the Class III Landfill site. No liner or leachate control system is required for the Enterprise RDF Class III landfill based on an existing natural clay layer underlying the landfill. Since the Facility accepts only those wastes described in 62-701.340(3)(d), FAC, it is not expected to produce a leachate that would pose a threat to public health or the environment. The strict method of controlling type of wastes disposed of also

supports the leachate and liner exemption, see Operations Plan, 5.0. The resulting seepage primarily will consist of rainwater runoff flowing through the fill material. The intervening soils are expected to attenuate and retard any pollutants generated prior to reaching the groundwater. Therefore, no leachate containment system is required.

Based on well inventory information from the Southwest Florida Water Management District, shallow residential wells in the area have a depth ranging from 75 to 190 feet. Potable wells normally withdraw water from limestone in the Floridan aquifer.

A consistent confining layer above the limestone has been identified across the site, as described in detail in the Hydrogeological Report. Additionally, Floridan aquifer monitor wells will be installed on the site to ensure early detection of any exceeded groundwater parameters in this aquifer.

### 3.10.3 Stormwater Controls

The approved Stormwater Management Plan for the landfill consists of "swales" and pond facilities constructed within the 200-foot landscape buffer zone to collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by Pasco County and the FDEP. In the interim, stormwater will be controlled mainly by percolation into the soil or by overland flow to the temporary stormwater pond to be located in the northeast corner of the site. The site's topography generally slopes downward to the northeast thus facilitating stormwater collection. Refer to Section 6 for details of the Stormwater Management Plan.

The stormwater management system was recently modified to include Cells 14 and 16, and a small portion of Cell 5, as the temporary stormwater pond. As the modified pond is constructed, the base of the pond will be certified with a three-foot thick confining layer, in accordance with construction permit specific condition 9.c. In addition, the design of Pond 2 has been slightly modified to accommodate excavation and monitor wells on the east side of the landfill.

### 3.11 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell, see Reclamation and Closure Plan (Section 7) for further details.

### 3.12 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Figure 3-10 (C-5)) and in the cross-sections (Figures 3-8 (C-3) and 3-9 (C-4)). The mined areas will be certified to the approved Landfills bottom grade prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas.

### 3.13 SETBACKS AND VISUAL BUFFERS

The following setbacks (buffers) from the boundary lines of the site shall be used:

1. Minimum of 200 feet from boundary lines to landfill footprint.
2. Minimum of 500 feet setback from surrounding residential wells to landfill footprint.

Buffer areas are to be improved to maintain visual screening of the landfill by the following methods.

1. 8-foot high berms along the frontage of Enterprise and Auton roads.
2. Landscaping to provide visual buffers within setback areas are shown on attached Figure 3-11 (C-6) and will be completed within 6 months of permit issuance, or sooner, and will be in compliance with the Pasco County LDC.
3. Trees shall be planted in the specified buffers as required by the Pasco County and as shown on Landscaping Plan, Figure 3-11 (C-6).
4. Existing trees within the setbacks will be maintained.

All trees shall be nursery grown and meet the grades and standards established by the Florida Department of Agriculture for FL #1 materials. Trees shall be sound, healthy, vigorous species free from defects and fully developed without voids and open spaces.

The planting of trees on the site shall conform to the following landscape requirements in accordance with the County LDC, see notes on Figure 3-11 (C-6).

Planting shall be inspected at the completion of the project. Final acceptance shall subject the project to compliance with specified material and installation requirements.

### 3.14 FOUNDATION ANALYSIS

A Geotechnical evaluation was conducted on the landfill site to estimate if the base and geologic setting are capable of providing structural support. Universal Engineering Sciences, Inc. completed the Geotechnical Report included as Section 4. The report states that the landfill base will adequately support the Class III landfill wastes without excessive settlement. It also states that the potential for sinkhole development on the site is low. In the event a sinkhole is discovered on-site, or within 500-feet of the site, the Department will be notified within 24 hours. A reclamation plan of action will be submitted to the Department within seven days. Soil boring logs used to support the foundation analysis are also in Section 4, Appendix B.

### 3.15 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.

- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area.

### 3.16 OPERATIONS PLAN

The landfill's Operations Plan is included as Appendix 3-A.

### 3.17 CONTINGENCY PLAN

The landfill's Contingency Plan is included as Appendix 3-B.

## REVISED OPERATIONS PLAN

**APPENDIX 3-A**

**OPERATIONS PLAN**

**ENTERPRISE RECYCLING & DISPOSAL FACILITY  
41111 ENTERPRISE ROAD  
DADE CITY, FLORIDA 33525**

**PREPARED FOR:**

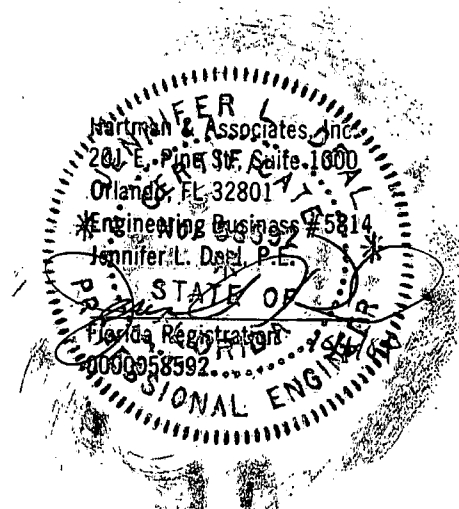
**ANGELO'S AGGREGATE MATERIALS, LTD.**

**PREPARED BY:**

**TETRA TECH/HARTMAN & ASSOCIATES, INC.  
201 E. Pine Street, Suite 1000  
Orlando, Florida 32801**

**OCTOBER 2004**

**HAI# 99.0331.016**



## OPERATIONS PLAN

### 1.0 DESIGNATION OF RESPONSIBLE PERSON(S)

The current designated responsible person for the proposed Enterprise Recycling and Disposal Class III facility is Mr. Dominic Iafrate. All correspondence and inquiries concerning the Enterprise RDF Class III Landfill permits and operation should be addressed to him at:

Mr. Dominic Iafrate, President  
Angelo's Aggregate Materials, Ltd.  
26400 Sherwood Avenue  
Warren, Michigan 48091  
(586) 756-1070

### 2.0 LANDFILL SITE IMPROVEMENTS

The 160 acre landfill site is also permitted to be a sand mine facility. The following site improvements have been installed, to operate the Class III Landfill.

#### 2.1 Facilities

An office trailer (gate house) is located onsite for the gate attendant. This trailer will have handwashing and toilet facilities. The trailer will be served via the on-site potable water supply well. Electric and telephone services will also be available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Site Plan, Figure 3-6 (C-1).

#### 2.2 Primary Haul Route

The primary haul route to reach the Enterprise Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R.35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R.35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R.35A to the entrance of what will be the active portion of the landfill. Enterprise RDF will maintain this access road to provide adequate access.



### 2.3 Effective Barrier

The existing Enterprise property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence consists of a 6-foot high galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. The chain link fence was installed within 90 days of permit issuance. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters will be installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-feet high berm has been constructed along the frontages of Enterprise and Auton roads as a visual and noise buffer.

The required County and FDEP setbacks will be surveyed in and marked upon permit issuance.

### 3.0 OPERATING HOURS

The landfill shall have the following operating hours:

<u>Day</u>	<u>Hours of Operation</u>
Monday through Friday	7:00 am to 6:00 PM
Saturday	7:00 am to 2:00 PM

Operational hours may be extended periodically to meet special requests of customers, but at no time will operating hours extend past 7:00 A.M. to 7:00 P.M. Monday through Saturday. Waste will not be accepted during non-daylight hours.

### 4.0 CONTINGENCY OPERATIONS

A natural disaster closing the facility would not cause a major impact on the surrounding communities. Debris originally destined for the landfill would be rerouted to another permitted landfill site. In terms of equipment breakdown, there will be two working pieces of equipment

for all stages of landfill operation. If both should breakdown, replacements can be rented or substituted from onsite or offsite within 24 hours.

If the site were to stay operational as a landfill to accept yard waste during and after a major storm, the excavation operations would cease and no soils would be removed from the site until waste receipt returned to normal levels.

The site access roads will be constructed to allow passage of vehicles under all expected weather conditions. See Appendix 3-B for the site's Contingency Plan.

## 5.0 WASTE STREAM QUALITY CONTROL PLAN

### 5.1 Visual Inspection

An estimated 1500 tons of Class III waste material will be received at the facility daily. Materials brought onto the Enterprise RDF site will be inspected three times. The first inspection takes place at the site entrance. The site will only accept Class III debris; therefore, any vehicles hauling unacceptable waste can be turned away by the attendant at the ticket gate. The gate attendant will question all waste carriers as to the character of their wastes. A video camera has been installed over the scale location that will allow the gate attendant to visually screen all carrier loads prior to disposal.

The second inspection is a visual inspection that will occur at the disposal/working face. This landfill employee, the spotter, stationed at the working face will be responsible for spotting trucks bringing in disposal loads. The spotter will show the drivers where to unload, and will also inspect the trucks to make sure unacceptable materials are not unloaded. The spotter will have the authority to ensure that unacceptable materials are reloaded on the truck the material was brought in on.

The third inspection will occur as the waste is spread by the equipment operator. Any unacceptable wastes observed will be placed in the appropriate container located at the working face.

## 5.2 Documentation of Waste Received

Documentation includes recording the name of the company disposing, driver's signature, all vehicle identification numbers, quantity of waste (tons), and type of waste (to meet FDEP and Pasco County's requirements, all vehicles entering the landfill will be weighed). The type of material and location from which the waste was generated will be recorded. This provides a record for tracing ownership of individual loads. See Operating Record, Section 19.1 for more details.

## 5.3 Contingency for Unacceptable Materials

If unacceptable materials are delivered to the landfill, they will be refused entry at the gate, if identified as unacceptable at the ticket gate. If the unacceptable materials are observed by a spotter while unloading, they will be reloaded onto the delivery vehicle. Should the vehicle leave before the unaccepted waste has been discovered, Enterprise RDF will place the unacceptable material into an appropriate container located at the working face, as the unacceptable materials are found onsite. Enterprise RDF, or the transporter/generator will then pay a commercial hauler to transport the materials to a disposal facility permitted to accept that type of material. Inadvertently accepted Class I waste shall be stored in a leak proof container with a lid to prevent the generation of leachate and odor. The Class I container contents will be taken weekly for proper disposal at a FDEP permitted Class I Landfill. Other unacceptable nonputrescible, nonhazardous wastes that are inadvertently accepted will be stored in a roll-off container and will be removed for proper disposal within 30 days. Any batteries, paint, chemicals, thermostats or similar items observed will be stored in the secured maintenance building until they are taken for proper disposal. This plan should meet the inspection needs for the site to prevent disposal of unacceptable wastes.

If suspect regulated hazardous wastes are identified by operators or spotters by random load inspection or discovered deposited at the landfill, the FDEP will be notified promptly, as well as the hauler and generator of the wastes, if known. The area where the hazardous wastes are deposited will immediately be secured from public access. If the generator or hauler cannot be identified, Enterprise RDF will assume the cleanup, transportation and disposal of the waste at a permitted hazardous waste management facility.

#### 5.4 Acceptable and Unacceptable Waste

The Enterprise RDF Class III Landfill will accept only those solid wastes as defined in F.A.C., Chapter 62-701.340(3).

The following is a compilation of acceptable waste materials.

- Land clearing debris
- Demolition debris
- Glass
- Carpet
- Cardboard
- Asbestos
- Plastic
- Construction debris
- Non-Treated Wood Pallets
- Unpainted and untreated wood scraps from manufacturing
- Waste Tires (Shredded)
- Paper
- Furniture other than appliances
- Yard wastes

The following is a compilation of unacceptable waste materials:

- Putresible Household Waste
- Paint
- Any toxic or hazardous Materials (i.e., batteries, solvents, oils, etc.)
- Drums
- Refrigerators, freezers, air conditioners (white goods)
- Biomedical waste
- Automobiles or parts
- Septic tanks and pumping
- Whole waste tires
- Electronics

The landfill site has a visible sign at the site entrance on Enterprise Road. The sign depicting the accepted wastes, hours of operation, tipping fee, landfill classification, and site's 24-hour emergency contact and telephone number was posted prior to operation as a Class III Landfill, see approved sign in Appendix A.

#### 5.5 Random Load Inspection

On a random basis, one (1) load per day will be selected for inspection from the incoming loads. These loads will be selected by the site manager. Once a load has been selected, it will be temporarily isolated from all other incoming loads until the inspection has been completed.

The following procedures shall be followed when inspecting the load:

- A. The load will be "broken apart" by both the spotter and equipment operator to allow for a thorough inspection.
- B. The inspectors will be watching for any unauthorized waste contained in the load.
- C. If the load contains any unauthorized materials, they shall immediately be reloaded onto the customer's vehicle for removal from the site. In the event that the transporter will not remove the unacceptable materials, the materials will be loaded into an appropriate container and removed from the site. The customer/generator will be contacted and notified of the site policies as well as charged for the off-site disposal service.
- D. In all cases, if unacceptable wastes are found during the inspection, the customer will be notified to provide immediate feedback to prevent future occurrences.

All inspection shall be documented on the site's "Random Load Inspection Form," signed by the inspector, and kept in a current Log Book, see Appendix B. Log books will be maintained at the landfill for at least 3 years. Inspections shall be performed by trained site personnel.

#### 5.6 Asbestos Waste Disposal

Asbestos-containing materials (ACM's) will be accepted for disposal in accordance with 40 CFR Part 61.154. Arrangements for disposal of ACM's between Enterprise RDF and the waste generator/hauler will be recorded in the operations record as to the quantity and date of shipment to the landfill.

To ensure that all waste deposited in the Facility meets state and local requirements, all facility personnel shall receive training from their supervisor on the identification of unacceptable materials, which is any waste other than properly labeled and bagged ACM. Unregulated, non friable asbestos containing materials are not required to be bagged, but all other requirements are unchanged.

Each load of ACM arriving at the facility must be accompanied by a completed Waste Shipment Record (WSR) in accordance with 40 CFR 61.150. Each load will be inspected to insure that it is properly bagged, that bags are intact and properly sealed, and that the required warning labels and generator labels are affixed. Bags will not be opened prior to disposal.

ACM arriving at the Facility for disposal will be visually screened by facility personnel a minimum of two times. The first screening will be at the weigh scales, controlling access to the Facility, where the truck drivers will be questioned as to what they are transporting and shipping documents reviewed. The gate attendant will also make a cursory visual examination and direct the drivers to the appropriate disposal area. If this examination identifies acceptable materials, the gate attendant will direct the drivers to the appropriate disposal area. If this examination turns up unauthorized material the truck shall be denied access to the site.

The second screening will be at the working face where a trained inspector/spotter will again question the driver and make a visual examination of the load prior to dumping and as it is dumped. This examination shall insure the ACM is properly bagged, the bags are intact and properly sealed, and that the warning labels and generator labels are affixed.

Enterprise RDF personnel will direct the waste hauler to the designated ACM disposal location in each cell, to be determined by the Operator or Site Manager. The ACM will be covered with 6-inches of soil at the end of any day, ACM is accepted. This designated ACM location will be recorded and updated by the annual topographic survey in accordance with 40 CFR 61.154. ACM disposal records will be maintained for the life of the landfill and disposal locations documented in the Closure Report.

#### 5.7 Recycling Operations

The Class III landfill plans to recycle a portion of wastes received. In 1998, the State of Florida passed legislation that set a waste reduction/recycling goal of 30 percent by 1995. In 1992, yard trash was restricted from public Class I and II landfills which provides an opportunity for Class III landfills to segregate yard wastes for recycling. Other wastes planned to be recycled at the landfill are: metals, concrete rubble; paper/cardboard; wood wastes; and possibly waste tires. Enterprise's activities to recover and recycle these products will assist the State and County to meet their 30 percent goal and increase the life of the landfill. However, we believe that a

Materials Recovery Facility permit will not be required for the recycling area since the primary use of the landfill facility is disposal.

Trucks identified at the entrance as carrying primarily recyclable products, (i.e., concrete, metal, wood, paper) will be directed to the currently designated areas of the landfill with recovered material containers. The recovered material containers will be located at the working face.

At the working face, the spotter will direct the separation of mixed loads if the loads contain a sufficient amount of recoverable materials.

Wood wastes may be chipped for mulch, or be placed in roll-off containers for shipment to a wood recycler. Waste tires will be stored in a roll-off container and may be shipped to a recycler or reused on-site, depending on the quantity received.

#### 5.7.1 Reports

A Recovered Materials report will be submitted quarterly by type of waste and tonnage to the Pasco County Solid Waste Department. These reports will also be compiled into an annual report to the FDEP.

### 6.0 WEIGHING OR MEASURING INCOMING WASTE

A scale system is used as shown on the Site Plan. The scale will be calibrated prior to use and every six (6) months, thereafter. Trucks will be weighed as entering the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste material disposed will be determined and the appropriate fee assessed.

#### 6.1 Fee Schedule

The proposed fee schedule to be used by the public at the Enterprise RDF is as follows:

Waste Type	Unit	Fee per Unit
Class III	Cyds	\$9.50

This fee schedule will be periodically revised according to the prevailing market for waste disposal. Enterprise RDF will notify Pasco County immediately in writing of any fee schedule change.

## 7.0 VEHICLE TRAFFIC CONTROL AND UNLOADING

Generally, truck traffic will be controlled by first in - first out, as directed by the working face spotter when and where to dump. There will be adequate space for truck staging at the site's gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mine truck traffic vs. landfill truck traffic to their appropriate areas of the site.

## 8.0 METHOD OF CELL SEQUENCE AND LIFE EXPECTANCY

### 8.1 Cell Sequence

The landfill operation will progress in a series of cells as shown on Figure 3-6 (C-1) (See Section 3 at Engineering Report). Cell No. 1 will begin at the east portion of the site with material placed against the east slope with the first lift consisting of 10 feet deep fill. Cell No. 1 will then continue to the south along the east bank and extend approximately 550 feet out from the west slope. Each lift will be compacted as the waste is placed in the cell. The access road will be relocated to provide access to the next cell. The cell landfilling will continue in similar fashion until the cell reaches final grade less 3 feet. Some areas of the cells may have partial lifts, based on the final cell elevations. The working face shall not exceed a slope of 3H:1V and a width of 100 feet along the side slopes, however, once the waste elevation reaches a height of 125 feet, NGVD, the working face slope shall not exceed 4H:1V. Cell closure will commence immediately after cell completion. Within 120 days of Cell No. 1 completion, the final 3 feet cover of soil will be placed and compacted to a minimum of 1.5 feet barrier layer with 18 inches of topsoil and vegetated. The stormwater retention pond (Pond 1) will be constructed at this time. The north and west sides of completed Cell No. 1 stormwater will drain to the temporary pond, in the northeast corner of the site.

Cell #15 is the next 560-foot strip to the north of Cell #1. Cell sequencing will continue to the north (through Cell #15) and then move to the west and south portions of the filled areas for



Cells 2 to 5. Completion of cells 14, 16, and a portion of Cell 5 will entail filling the northeast temporary retention pond once the floor of the pond has been built up with clean debris or clean fill to the landfill base elevation of 80 feet NGVD in this portion of the landfill. The ponds constructed for completed cells within the buffer areas will approximately replace the stormwater capacity of the northeast temporary pond.

The sequence of filling operations are as follows, (see Figures 3-17 through 3-18):

- Sequence 1    Fill Cells 1, 15, & 2 four 10-12' lifts (125').  
                  Final cover to be placed on outer slopes as constructed above grade.
- Sequence 2    Fill Cell 3 four 10-12' lifts (125'), against Cell 2 slope.  
                  Final cover to be placed on outer slopes as constructed above grade.  
                  Fill Cell 4 four 10-12' lifts (125'), against Cell 1 and 3 slopes.  
                  Fill portion of Cell 5 four 10-12' lifts (125'), against Cell 4 and 15 slopes.  
                  Fill Cells 2 and 3 three 10' lifts (155'), final cover on outer above grade slopes.  
                  Fill Cells 1 and 4 three 10' lifts (155'), final cover on outer above grade slopes.  
                  Fill Cells 15 and 5 three 10' lifts (155'), final cover on outer above grade slopes.
- Sequence 3    To be determined.
- Sequence 4    To be determined.
- Sequence 5    To be determined.
- Sequence 6    To be determined.
- Sequence 7    To be determined.  
                  Complete final closure of landfill.

Waste filling for Sequences 3 through 7 will be proposed during the permit renewal period. This is due to changing market conditions for sale of soils and limited ability to excavate and stockpile on-site soils.

Lift height includes cover material. Due to the landfill bottom elevation some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.
- Stormwater will be diverted to the onsite temporary storage pond until the latter part of the landfill life when Cells 14 & 16 begin to accept waste.

## 8.2 Erosion Control

The landfill's cell construction plan calls for the excavation of the existing sand mine at 6H:1V sidewall slopes of the pit to a 2H:1V for the outer cell boundaries slope prior to landfilling each cell. This slope can be safely maintained as supported by the Slope Stability Analysis, in the Geotechnical Report, Section 4.0. The 2H:1V excavation would not be initiated until the cell was ready to receive waste materials, and then only on the outer edge slope to first receive waste. This will minimize the time frame that a 2H:1V slope is exposed to the elements. The following engineering controls will be used to minimize erosion:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.

- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the regrading of the slope, begin to fill against the 2H:1V slope with the landfill material. As a minimum, the fill should be placed to a height of one-half the vertical height of the slope and at a 3H:1V slope or flatter.
- When the 100 linear feet of slope is backfilled with landfill material to one-half the vertical height of the slope, the same procedure can be followed for another 100 linear feet until the landfill is complete.

See Geotechnical Report, for more details.

If blowing sand becomes a problem, silt fences will be installed at the top of the 2H:1V side slope along the temporary berm/ditch.

### 8.3 Life Expectancy

Adequate soil stocks will be maintained to provide the soil cover material for closure activities (approximately 800,000 cyds). The calculated volume of each of the proposed landfill cells and sequencing is presented on the attached Section 7, Table 1 of this submittal. At the proposed waste disposal rate, based on similar landfill's quarterly reports to the County, the landfill will dispose of approximately 459,000 cyds per year of non-compacted Class III materials; which corresponds to approximately 270,000 cyds of compacted wastes (1.7:1 ratio) as placed in the landfill. This calculates to roughly two (2) lifts across a cell per year or a maximum of approximately two, 6- acre, 10-foot, lifts per year. If this rate continues, we estimate that the life of each cell is approximately 2 years. Sequences 1 and 2 will be permitted first for landfilling.

Therefore, based upon the calculated volume of landfill space available, the landfill has an estimated life expectancy of 30 years at projected disposal volumes and compaction rates.

## 9.0 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compatibility. Bulky, incompressible items shall be separated and reduced as appropriate by the chipper/crusher and disposed of or recycled. The remaining debris is disposed of in designated "cells" using onsite equipment to place the debris and a Rex 370-C Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The amount of weekly cover material required for the design life of the landfill is estimated to be approximately 400,000 cyds. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion (see Figure 3-8 (C-3) for final cover design of the Class III landfill site). The proposed final grades are shown in Figure 3-10 (C-5).

Cell closure shall conform to the grades and lines specified in the grading plan. The grading plan shall conform to the rules and regulation specified in 62-701.600, Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may be required in the closed cell areas.

## 10.0 OPERATION OF GAS, LEACHATE AND STORMWATER CONTROLS

### 10.1 Gas Monitoring and Control

The type of material to be disposed in the Class III Landfill is not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact. Therefore, a passive gas control system is proposed. The Enterprise RDF site Manager will conduct daily surveys of the landfill for objectionable odors or gas, record the results, and notify the County of any positive detection and immediately take corrective actions. Quarterly gas monitoring is currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design thus preventing possible odor operation. Other best management practices to prevent odors include: 1) closure

of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

However, since yard trash is an acceptable Class III waste, and it is biodegradable, a system of gas probes surrounding the landfill is used to monitor methane gas levels.

A system of passive gas vents will be installed to prevent explosions and fires from possible gas generating from the biodegradable wastes (yard trash) in the landfill. The location of the gas vents is shown on Figure 3-15. The construction details of the vents are shown on Figure 3-16. The vents will be installed during the final closure and installation of the final cover over each landfill cell.

A system of 16 gas probes will be installed to monitor gas at the site, see Figure 3-13. The construction details a typical gas probe as shown on Figure 3-14.

#### Gas Monitoring Procedures

##### 10.1.1 Methane Gas Measurement

In accordance with the subject landfill closure permits, methane gas levels will be monitored at each of the 16 gas monitoring points quarterly and submitted to the FDEP for review. See Figure 3-13. A portable explosimeter, or lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air as measured by the lower explosive limit. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

### 10.1.2 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise RDF landfill operator will institute measurement of methane in nearby structures, i.e., stormwater collection points, or any maintenance or office buildings nearby the subject gas probe until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from any nearby structures and may include monthly monitoring measurements at the high methane gas probe points until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the LEL.

### 10.2 Leachate Control

Liquid disposal is not permitted at the Class III Landfill site. Based on the approved method for controlling waste disposed of, types of waste received (Class III), and the naturally protective hydrogeological setting, the facility qualifies for a liner exemption. No liner system is required for the Class III landfill primarily based on an existing natural clay layer underlying the landfill. Stormwater runoff will be prevented from contacting the wastes by a system of swales and berms, see Section 6. Since the acceptable wastes are as described in Rule 62-701.340(3)(d), FAC, they are not expected to produce leachate which poses a threat to public health or the equivalent. The strict method of controlling types of wastes disposed also supports the leachate and liner exemption, see Section 5.0 The resulting seepage primarily will consist of rainwater runoff flowing through the top of fill material. The intervening soils within the zone of discharge (ZOD) are expected to attenuate and retard any pollutants generated prior to reaching the groundwater, and/or the bottom of the ZOD. Therefore, no leachate containment system is required.

### 10.3 Stormwater Control

The approved Stormwater Management Plan for the landfill consists of "swales" and pond facilities constructed within the 200-foot landscape buffer zone to collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by the FDEP. In the interim, stormwater will be controlled mainly by percolation into the soil or by overland flow to the temporary stormwater pond to be located in the northeast corner of the site. The site's topography generally slopes downward to the northeast thus facilitating stormwater collection.

The site manager will perform monthly inspections of the stormwater management system. Any areas in need of maintenance will be repaired within seven days.

### 11.0 SIGNS

Signs will be posted at the entrance to the Enterprise RDF site which will list the following information:

- The operating entity;
- Charges for disposal;
- Hours of operation;
- No scavenging allowed;
- No hazardous waste accepted;
- List of acceptable and unacceptable waste; and,
- 24-hour phone number of emergency contact.

The gate attendant will direct each driver to the area appropriate to unload wastes. Signs will also be posted to direct trucks to either the borrow pit or the landfill working face.

### 12.0 DUST ABATEMENT PLAN

Enterprise RDF will provide a water tanker to water the landfill access roads if and when dust becomes a problem. This will also be done whenever the County receives complaints about dust or when a dust problem is observed during a County or State inspection.

### 13.0 LITTER AND VECTOR CONTROL PLAN

The nature of the waste to be disposed in the landfill does not typically create litter and vector problems. Daily placement of waste and/or compaction will be the primary means utilized to control litter and vectors. If blowing litter becomes a problem, laborers shall patrol the site as needed and pick up blowing debris and dispose of it in appropriate containers and/or on site. In addition, the laborers shall weekly patrol the haul route west on Enterprise Road to C.R.35A for pick up of litter from vehicles hauling material to and from the site. Temporary fencing to contain litter at the working face of the landfill will be used as needed. These litter controls will also be implemented whenever the County or State receives a complaint from adjacent landowners or a litter problem is observed during an inspection.

### 14.0 FIRE PROTECTION AND FIRE FIGHTING FACILITIES

Fires that originate in landfills are primarily extinguished by soil application. Supplemental fire protection will be furnished by the Dade City Fire Department (Station No. 1). The Fire Department will be notified immediately of all landfill fires. An emergency contact sign will be posted at the entrance so it is visible to emergency vehicles with a contact phone number available 24-hours.

Onsite fire prevention facilities will include:

- Fire extinguishers mounted in the cab of all heavy equipment and in the gatehouse;
- Radio communication to notify personnel of a fire; and
- Onsite equipment (dozer) and fill dirt to extinguish fires on working face.

Soil for fire fighting purposes will be borrowed from the closest unexcavated area of the site to the fire. Details of all fire fighting episodes will be recorded in the landfill operating record.

#### 14.1 Hot Loads and Spills

Any hot load (of authorized material) found will be dumped on an area at least 500 feet away from the active working face. The load will immediately be covered with earth if a fire is imminent. The waste will not be disposed of until it has cooled completely, and the fire hazard has been mitigated.



Since liquid disposal is prohibited in a Class III landfill, spills from waste vehicles are not anticipated. In the case of a fuel spill or leak, the contaminated soil will be collected to the extent possible, contained in a drum or roll off container, and taken offsite within thirty (30) days for proper disposal or treatment.

## 15.0 LANDFILL PERSONNEL

The gate attendant and certified landfill operator shall be onsite during all operating hours. In addition, there shall be a minimum of one (1) other person (spotter) onsite, for a total of three (3). The state certified landfill operator will be assigned to manage the daily landfill operations. The personnel will be stationed at the landfill ticket gate and active disposal face. Additional personnel will be assigned to the landfill operation as the demand necessitates.

At least one (1) spotter will be at the working face at all times the facility is accepting waste. The spotter will direct vehicle traffic around the working face and will direct drivers where to empty their vehicles. The loads will be inspected as described in Section 5.1. If the load is acceptable, the waste will be spread and compacted as necessary. If the load is unacceptable, the spotter will direct the driver to reload the waste into the vehicle, if possible. The spotter will also discourage scavenging by the public.

A typical work schedule is as follows:

Day	Operating Hours	Gate Attendant	Certified Operator	Spotter(s)	Equipment Operator
M-F	7 am –6 pm	1 (7 am–6 pm)	1 (6 am -7 pm)	Min. 1 (7 am –6 pm) For 2 or more (7 am –4 pm), (12 pm –6pm )	Min. 1 (7 am –6 pm)
S	7 am – 2 pm	1 (7 am –2 pm)	1 (6 am –3 pm)	Min. 1 (7 am –2 pm)	Min. 1 (7 am –2 pm)

## 15.1 Training Plan

Enterprise RDF will implement an employee training plan to properly train their landfill operators and spotters to operate the landfill in accordance with this Operations Plan, state and local regulations, and accepted disposal practices and to properly manage any hazardous or prohibited materials which are received at the landfill.

A trained operator will be at the site during all times that the landfill receives waste. All facility operators will be trained at an approved FDEP training course. Each operator will submit proof of training and documentation to the FDEP upon receipt of their certificates.

Landfill operators must have at least one year of work experience in landfill operation and a high school diploma; or have at least two (2) years experience at a Class I, II, or III landfill. Each operator will complete at least 24 hours of initial training in an FDEP-approved training course, and shall pass an examination as part of that training. Sixteen (16) hours of continuing training will be completed within three (3) years of each operator's initial training from an approved course documented by the form in Appendix C. A list of FDEP approved training courses for operators and spotters is included in Appendix E.

Enterprise RDF landfill spotters will complete an initial eight (8) hour FDEP-approved course and four (4) hours of continuing training every three (3) years. Records documenting each employee's training course completion and schedule will be maintained and kept at the landfill office at all times.

In addition to FDEP required training, in-house training programs will be conducted by Enterprise RDF trained operators for interim operators, spotters and other employees in proper Class III landfill operations, unacceptable Class III waste material handling, asbestos handling, and facility maintenance. These in-house courses will be provided at least every six (6) months and be documented in a training log as shown in Appendix C.

## 16.0 COMMUNICATION FACILITIES

The landfill gate house will have both telephone and facsimile facilities. In addition, all landfill operating areas (gate house, working face, etc.) will have radio communication with the base station at the gate house.

## 17.0 EQUIPMENT INVENTORY

Equipment currently planned for use at the landfill site includes:

- A. D-8 Caterpillar bulldozer, Rex 370-C Compactor; two 2.5 cyd loaders, water truck, 590 John Deer backhoe, or equivalent are sufficient for adequate operation of the facility. A wood chipper/grinding machine (Hogzilla), or equivalent, will be moved to the site periodically to process wood wastes as needed. Additional equipment, such as a grader may be rented as needed.
- B. Arrangements will be made to provide alternate equipment within 24 hours following an equipment breakdown.
- C. There will be safety devices present on equipment to shield and protect the operators from potential hazards during operation.

### 17.1 Equipment Maintenance

Enterprise RDF will conduct routine heavy equipment and vehicle maintenance onsite. Maintenance includes fueling of heavy equipment with diesel fuel, lubrication, oil changes and, antifreeze changes. Tire repairs will be handled by an outside service company.

A permanent equipment fueling facility will be installed and registered in accordance with FAC 62-761. Pasco County will be copied on the registration.

Oil and antifreeze changes will be contained by large drip pans to catch the waste oils. These wastes will then be transferred either to a 250-gallon waste oil skid tank or to a 55-gallon drum for waste antifreeze, which will be located in a containment area. Enterprise RDF plans to enter

into contracts with licensed recyclers to periodically pick up the waste oil and antifreeze. Records of these pickups will be maintained by Enterprise RDF. All virgin lubricants will be stored within the proposed secured maintenance building. See the site plan for location.

## 18.0 SAFETY DEVICES

All operating equipment which will be utilized at the landfill site will be fitted with rollover protection and fire extinguishers. All landfill personnel will be required to wear safety helmets, safety shoes, eye protective glasses, gloves, and safety vests. The onsite heavy equipment will meet OSHA safety requirements. First aid equipment will be kept in the office trailer and in the operating equipment.

## 19.0 RECORDS, PERMITS AND REPORTS

A copy of any Florida Department of Environmental Protection (FDEP) and Pasco County approved engineering drawings, permits and supporting information shall be kept at the facility for reference and inspections. Permits will be posted at site per ordinance. A waste type and quantity intake (in tons) log will be kept daily, compiled monthly and a report will be submitted quarterly to Pasco County and the FDEP.

An annual estimate of the remaining life and capacity in cyds of the landfill will be reported annually to the FDEP.

### 19.1 Water Quality Monitoring

Enterprise RDF will conduct the required initial and semi-annual groundwater monitoring at the sites' monitoring wells as described in the sites' Groundwater Monitoring Plan. Semi-annual reports of this monitoring will be submitted to Pasco County and FDEP in accordance with this plan. Quarterly monitoring will also be conducted and reported at specific wells per Pasco County conditions. The potable supply well will be monitored semi-annually once disposal operations begin in Cell 2.

## 19.2 Landfill Operating Records

The operating record for the landfill will document daily as a minimum the following activities:

- Self inspections of landfill conditions, safety equipment and unacceptable waste received, any odor detected;
- Records used to develop permit applications;
- Change in construction, operation or closure permits and all supporting designs;
- Water quality sampling events, analytical reports, well installation or repair;
- Employee training;
- Facility construction, major maintenance, or demolition;
- Other activities that significantly affect facility operations.

The Operating Record will be kept at the landfill and be accessible to the landfill operators to maintain and for FDEP or Pasco County inspection at reasonable times.

Operational records will be maintained for the design life of the landfill. Water quality monitoring information, maintenance records, and permit reports will be maintained for a minimum of 10 years. Background water quality records will be maintained for the design period of the landfill.

## 20.0 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell.

## 21.0 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Figure 3-10 (C-5)) and in the cross-sections (Figures 3-8 (C-3) and 3-9 (C-4)). The mixed areas will be brought to the approved Landfills bottom grade prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas back to the grade which existed prior to the site being opened as a mine with allowance for positive drainage.

## 22.0 CLOSURE AND LONG TERM CARE

The site's Reclamation and Closure Plan details the procedures to properly close and maintain the landfill during the 30-year post-closure period. A Closure Report will be prepared for the landfill that details the site-specific limitations for land use based on geotechnical stability (settlement), potential gas migration, and site access. Long-term maintenance of erosion controls, stormwater controls and monitoring devices is discussed in the Closure Plan, Section 7, of the permit application document.

## 23.0 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.
- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

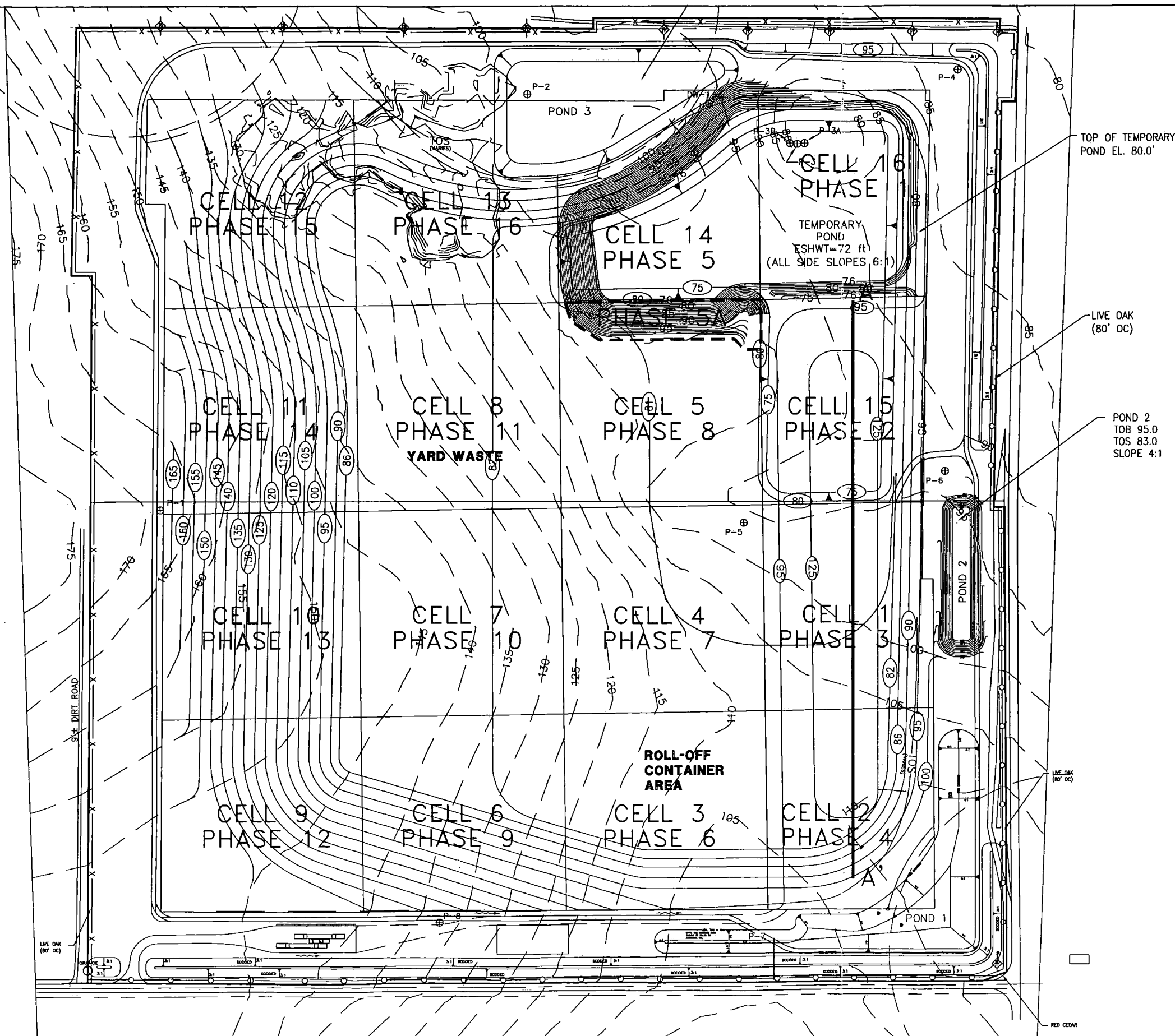
Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area.

#### 24.0 HISTORY OF ENFORCEMENT ACTION

A short form consent order was executed in 2004 to resolve a warning letter issued by the Department for a permitted recycling facility in Largo, Florida, owned by Angelo's.

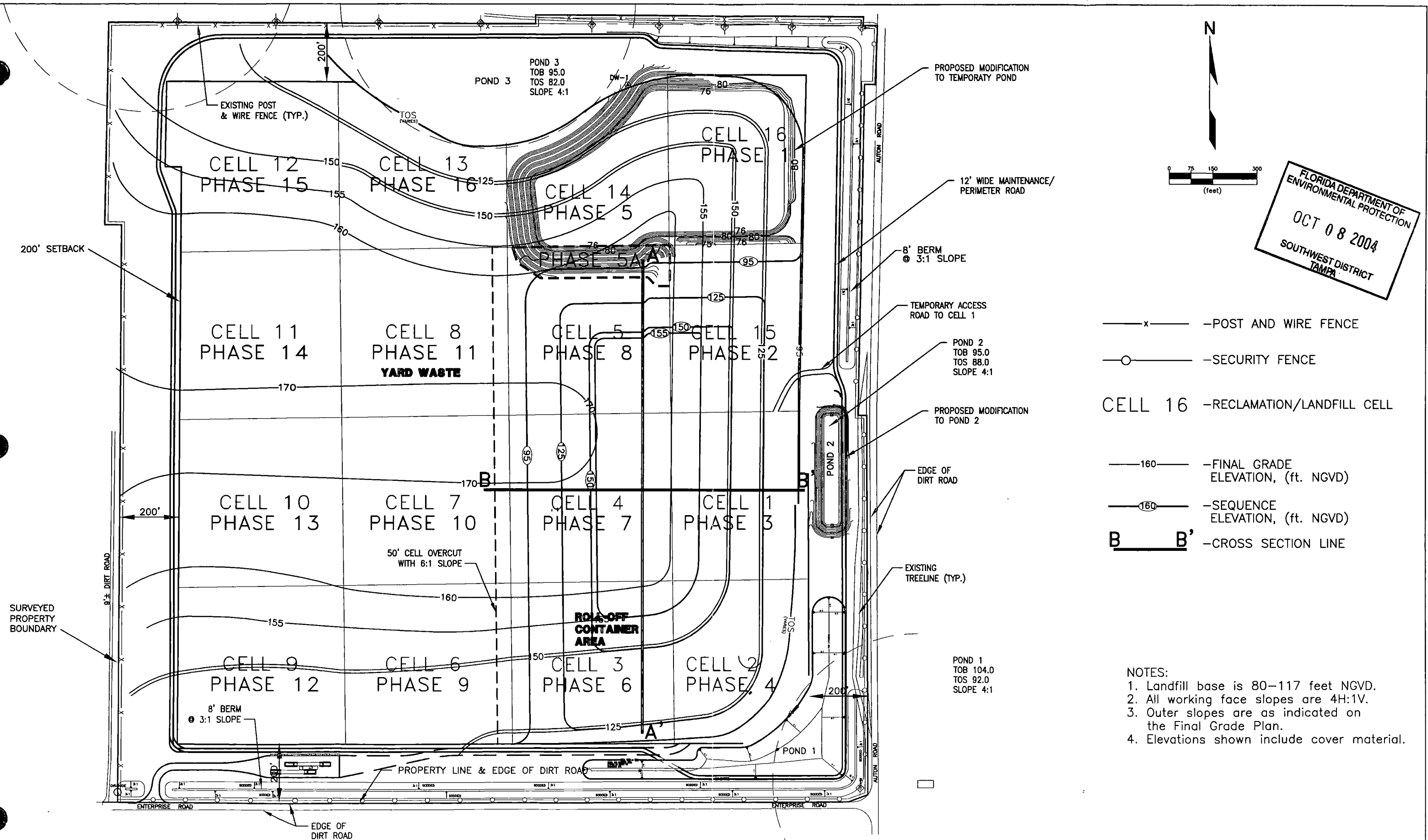
REVISED FIGURES AND PLAN SHEETS



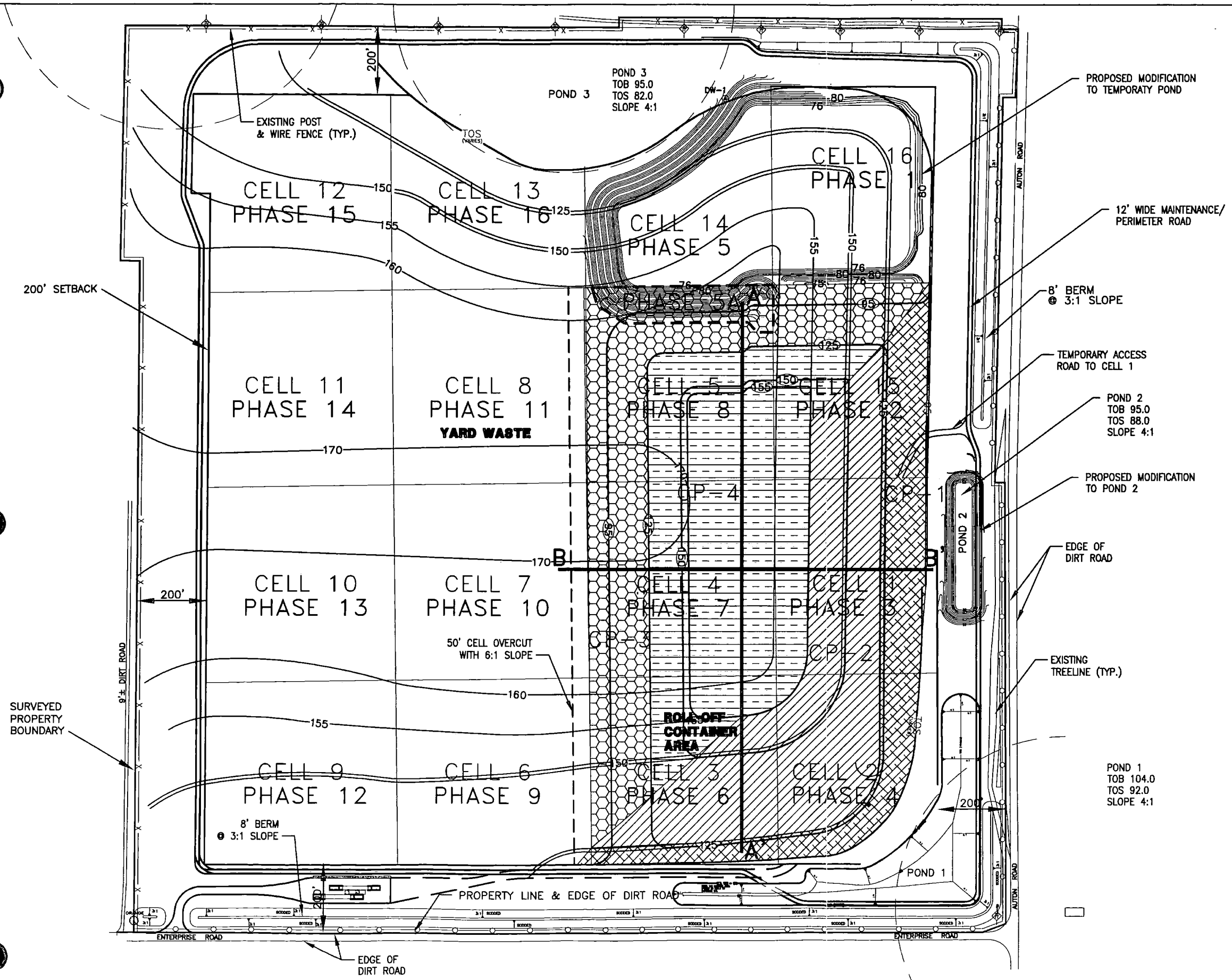


- x — POST AND WIRE FENCE
- o — SECURITY FENCE
- CELL 16 PHASE 1 — RECLAMATION/LANDFILL CELL — MINE EXCAVATION PHASE IDENTIFICATION NUMBER
- (81) — PROPOSED EXCAVATION CONTOUR LINE (ft, NGVD)
- (125) — SEQUENCE ELEVATION (ft, NGVD)
- A — A' — CROSS SECTION LINE

- NOTES:
1. Landfill base is 80–117 feet NGVD.
  2. All working face slopes are 3H:1V towards the west, 4H:1V elsewhere.
  3. Outer slopes are as indicated on the Final Grade Plan.
  4. Elevations shown include cover material.



FLORIDA DEPARTMENT OF  
 ENVIRONMENTAL PROTECTION  
 OCT 08 2004  
 SOUTHWEST DISTRICT  
 TAMPA



N

0 75 150 300  
(feet)

FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION

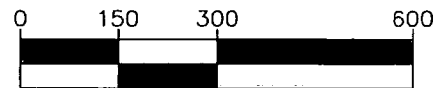
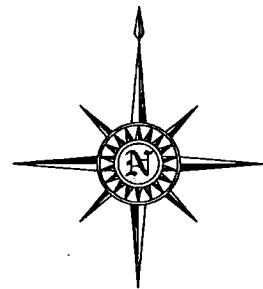
OCT 08 2004

SOUTHWEST DISTRICT  
TAMPA

- x — —POST AND WIRE FENCE
- o — —SECURITY FENCE
- CELL 16 —RECLAMATION/LANDFILL CELL
- 160 — —FINAL GRADE ELEVATION, (ft. NGVD)
- 160 — —SEQUENCE ELEVATION, (ft. NGVD)
- B — B' —CROSS SECTION LINE
- CP-1 —CELL CLOSURE PHASE

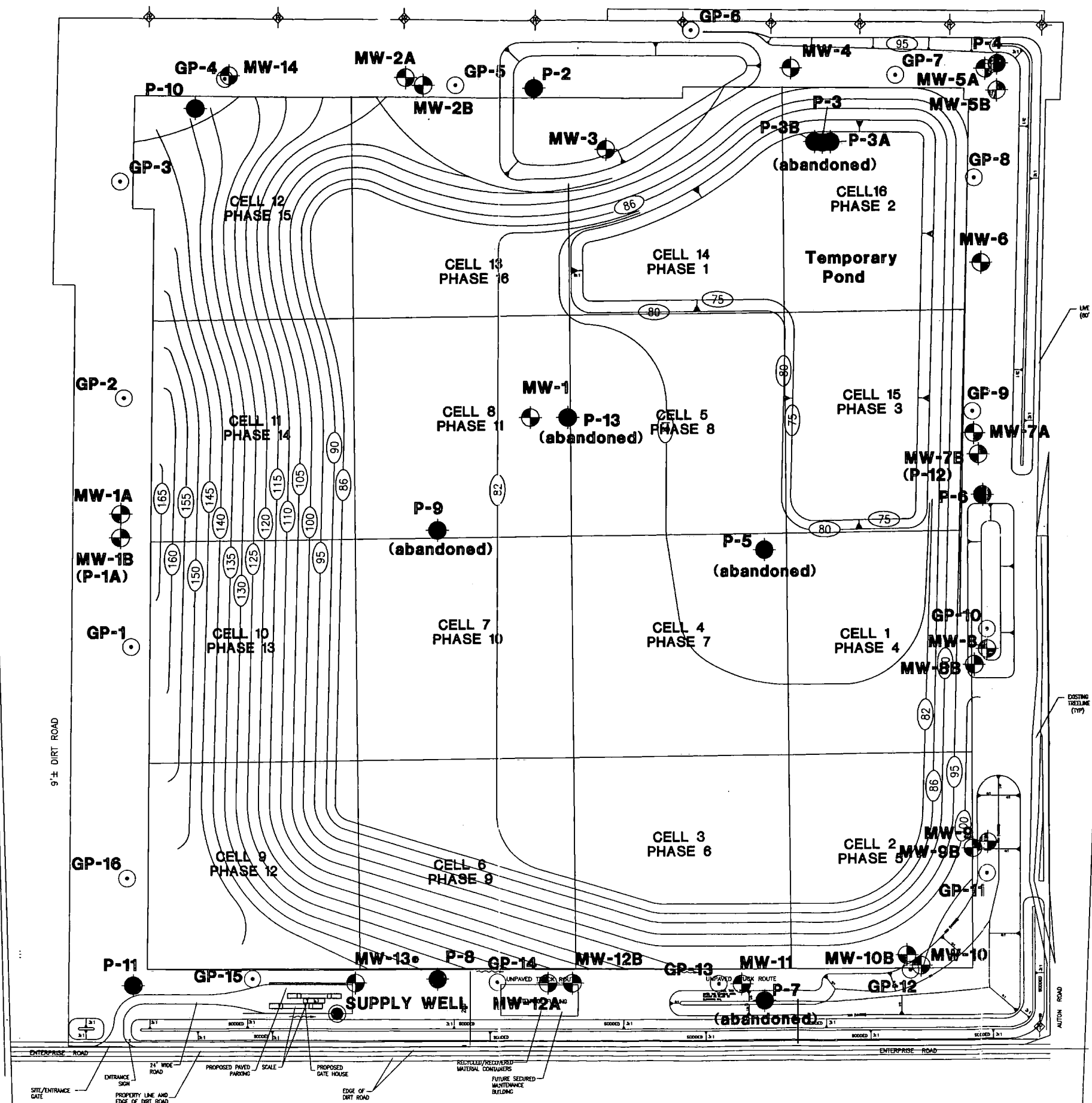
NOTES:

1. Landfill base is 80-117 feet NGVD.
2. All working face slopes are 4H:1V.
3. Outer slopes are as indicated on the Final Grade Plan.
4. Elevations shown include cover material.
5. CP-3 and CP-4 will only occur as shown if the landfill closes upon completion of Sequence 2.



# LEGEND

- MW-1 MONITOR WELL LOCATION
- GP-1 GASPROBE LOCATION
- P-9 PIEZOMETER WELL LOCATION
- SUPPLY WELL

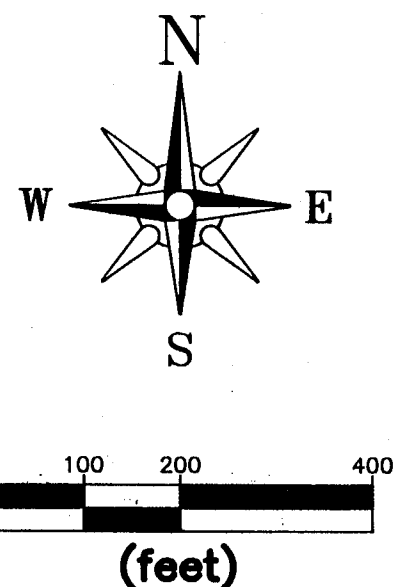
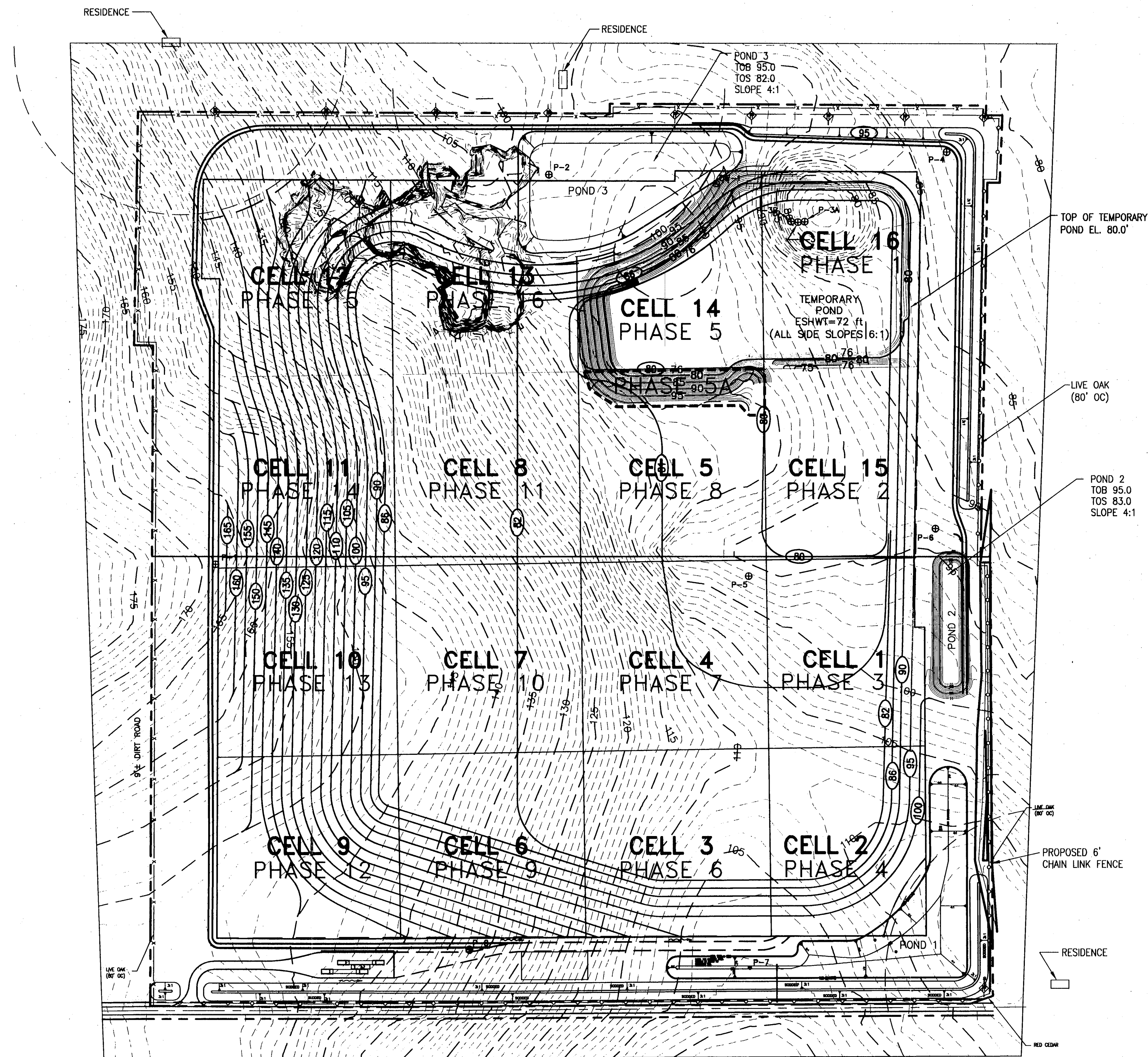


FLORIDA DEPARTMENT OF  
ENVIRONMENTAL PROTECTION  
OCT 08 2004  
SOUTHWEST DISTRICT  
TAMPA

WELL LOCATION MAP  
ENTERPRISE ROAD RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

R:\1999\99 0331 007\33107N01





LEGEND

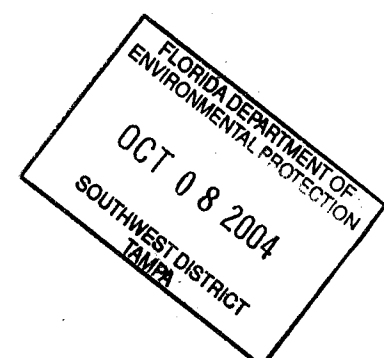
- POST & WIRE FENCE
- SECURITY FENCE
- EXISTING CONTOUR LINE (ft, NGVD) 3/31/2000
- PROPOSED EXCAVATION CONTOUR LINE (ft, NGVD)
- LINE OF CROSS SECTION
- PIEZOMETER LOCATION
- EXISTING WELL BY OTHERS
- EXISTING POST & WIRE FENCE
- LANDFILL CELL
- EXCAVATION PHASE
- LANDFILL SETBACK LINE

Site Volume Table: Unadjusted							Fill	Net
Site	Stratum	Surf1	Surf2	yards	Cut	yards		
ENTERPRISE ROAD MINE	combined	eg	FG-MINE	4351704			4637572	8989276

NOTE:

- 6:1 MINE SLOPES TO BE CUT BACK TO 2:1 SLOPES PRIOR TO THE RECLAMATION BY LANDFILLING.
- DURING THE EXCAVATION PHASE, POND 3 WILL MAINLY RECEIVE THE OFF-SITE RUNOFF AND ALSO THE RUNOFF FROM THE AREAS OUTSIDE THE LANDFILL SETBACK LINE.

PLAN VIEW  
SCALE: 1" = 200'



Hartman & Associates, Inc.  
201 E. Pine St., Suite 1000  
Orlando, FL 32801  
Engineering Business #5814  
Jennifer L. Deal, P.E.  
Florida Registration 10/04/04  
0000058592 Solid Waste Operations

**HARTMAN & ASSOCIATES, INC.**  
engineers, hydrogeologists, surveyors & management consultants  
201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801  
TELEPHONE (407) 839-3955 - FAX (407) 839-3790

**ANGELO'S AGGREGATE MATERIALS, LTD.**  
PASCO COUNTY, FLORIDA

**ENTERPRISE RECYCLING &  
DISPOSAL FACILITY  
MINE EXCAVATION PLAN**

REVISIONS				BY				DATE		PROJECT NO. 99-331.01 SCALE 1" = 200' <b>C-2</b> SHEET - OF -
10/04	ADD CELL FLOOR CONTOUR	JLD	RKC	DESIGNED	JEG	4/00				
8/04	REVISE PHASING, ADD REVISED FEATURES	RCC	JLD	DRAWN	TJL	4/00				
11/00	EXPAND TEMPORARY POND	ACD	RKC	CHECKED	RKC	4/00				
8/00	PER PASCO COUNTY SETBACKS	JEG	RKC	QC APPROVAL						
DATE	REVISIONS	REVISED	CHECKED	DATE	FILE:					

GROUNDWATER SUMMARY TABLE

**TABLE 1**  
**WATER LEVEL ELEVATIONS**  
**ENTERPRISE RECYCLING AND DISPOSAL FACILITY**  
**DADE CITY, FLORIDA**

MW-5A		MW-7A		P-10		MW-1B		MW-5B	
6/30/03	81.05	6/30/03	75.42	6/30/03	74.32	6/30/03	74.43	6/30/03	74.33
7/8/03	79.16	7/8/03	76.05	7/8/03	75.05	7/8/03	75.18	7/8/03	75.05
7/17/03	79.21	7/17/03	75.82	7/17/03	75.35	7/17/03	75.46	7/17/03	75.34
8/4/03	79.11	8/4/03	76.3	8/4/03	75.83	8/4/03	75.95	8/4/03	75.84
8/11/03	80.04	8/11/03	77.13	8/11/03	76.1	8/11/03	76.18	8/11/03	76.13
8/19/03	80.7	8/19/03	76.97	8/19/03	76.29	8/19/03	76.4	8/19/03	76.29
8/25/03	84.13	8/25/03	77.83	8/25/03	76.63	8/25/03	76.76	8/25/03	76.64
9/2/03	82.52	9/2/03	77.77	9/2/03	76.96	9/2/03	77.07	9/2/03	76.96
9/9/03	81.31	9/9/03	77.88	9/9/03	77.09	9/9/03	77.21	9/9/03	77.08
9/15/03	83.85	9/15/03	78.12	9/15/03	77.24	9/15/03	77.35	9/15/03	77.25
9/23/03	81.42	9/23/03	77.95	9/23/03	77.26	9/23/03	77.39	9/23/03	77.25
10/2/03	80.33	10/2/03	77.49	10/2/03	77.05	10/2/03	77.16	10/2/03	77.05
10/7/03	79.97	10/7/03	77.16	10/7/03	76.83	10/7/03	76.95	10/7/03	76.81
10/14/03	79.9	10/14/03	76.82	10/14/03	76.55	10/14/03	76.65	10/14/03	76.56
10/21/03	79.30	10/21/03	76.38	10/21/03	76.18	10/21/03	76.29	10/21/03	76.20
10/30/03	78.89	10/30/03	75.78	10/30/03	75.64	10/30/03	75.74	10/30/03	75.64
11/5/03	78.72	11/5/03	75.65	11/5/03	75.52	11/5/03	75.62	11/5/03	75.51
11/19/03	78.09	11/19/03	74.79	11/19/03	74.71	11/19/03		11/19/03	74.71
12/1/03	77.58	12/1/03	74.28	12/1/03	74.23	12/1/03	74.36	12/1/03	74.24
12/8/03	77.26	12/8/03	73.94	12/8/03	73.89	12/8/03	74.01	12/8/03	73.90
12/17/03	76.86	12/17/03	73.58	12/17/03	73.53	12/17/03	73.64	12/17/03	73.55
12/22/03	76.66	12/22/03	73.14	12/22/03	73.10	12/22/03	73.20	12/22/03	73.12
12/29/03	76.34	12/29/03	73.05	12/29/03	73.04	12/29/03	73.14	12/29/03	73.01
4/14/04	74.32	4/14/04	70.78	4/14/04	70.75	4/14/04	70.85	4/14/04	70.76

**TABLE 1**  
**WATER LEVEL ELEVATIONS**  
**ENTERPRISE RECYCLING AND DISPOSAL FACILITY**  
**DADE CITY, FLORIDA**

MW-7B		MW-1		MW-6		MW-8	
6/30/03	74.37	6/30/03	74.78	6/30/03	74.69	6/30/03	81.13
7/8/03	75.08	7/8/03	75.59	7/8/03	75.42	7/8/03	80.91
7/17/03	75.37	7/17/03	76.46	7/17/03	71.49	7/17/03	78.17
8/4/03	75.89	8/4/03	77.26	8/4/03	76.03	8/4/03	77.70
8/11/03	76.15	8/11/03	77.36	8/11/03	76.48	8/11/03	79.51
8/19/03	76.32	8/19/03	77.54	8/19/03	76.55	8/19/03	78.65
8/25/03	76.66	8/25/03	77.72	8/25/03	77.09	8/25/03	80.29
9/2/03	76.99	9/2/03	78.05	9/2/03	77.21	9/2/03	79.00
9/9/03	77.12	9/9/03	78.33	9/9/03	77.30	9/9/03	78.64
9/15/03	77.27	9/15/03	78.54	9/15/03	77.36	9/15/03	79.44
9/23/03	77.29	9/23/03	78.82	9/23/03	77.51	9/23/03	79.35
10/2/03	77.08	10/2/03	78.99	10/2/03	77.26	10/2/03	78.52
10/7/03	76.84	10/7/03	79.05	10/7/03	77.03	10/7/03	78.17
10/14/03	76.59	10/14/03	78.96	10/14/03	76.67	10/14/03	77.36
10/21/03	76.22	10/21/03	78.69	10/21/03	76.30	10/21/03	76.73
10/30/03	75.67	10/30/03	78.32	10/30/03	75.76	10/30/03	76.06
11/5/03	75.51	11/5/03	78.27	11/5/03	75.62	11/5/03	75.97
11/19/03	74.73	11/19/03	77.74	11/19/03	74.79	11/19/03	75.26
12/1/03	74.26	12/1/03	77.31	12/1/03	74.31	12/1/03	74.74
12/8/03	73.92	12/8/03	77.01	12/8/03	73.99	12/8/03	74.50
12/17/03	73.59	12/17/03	76.62	12/17/03	73.62	12/17/03	74.15
12/22/03	73.15	12/22/03	76.39	12/22/03	73.12	12/22/03	73.85
12/29/03	73.05	12/29/03	76.10	12/29/03	73.04	12/29/03	73.67
4/14/04	70.79	4/14/04	72.62	4/14/04	70.80	4/14/04	DRY



**TABLE 1**  
**WATER LEVEL ELEVATIONS**  
**ENTERPRISE RECYCLING AND DISPOSAL FACILITY**  
**DADE CITY, FLORIDA**

MW-10		MW-11		P-2		P-4	
6/30/03	81.22	6/30/03		6/30/03	74.52	6/30/03	77.86
7/8/03	86.06	7/8/03		7/8/03	75.32	7/8/03	76.07
7/17/03	78.60	7/17/03		7/17/03	75.56	7/17/03	76.38
8/4/03	77.86	8/4/03		8/4/03	76.30	8/4/03	76.73
8/11/03	77.73	8/11/03		8/11/03	76.50	8/11/03	77.26
8/19/03	78.72	8/19/03	77.25	8/19/03	78.42	8/19/03	78.12
8/25/03	78.93	8/25/03	77.47	8/25/03	78.63	8/25/03	81.07
9/2/03	79.54	9/2/03	77.80	9/2/03	78.61	9/2/03	81.09
9/9/03	78.96	9/9/03	77.97	9/9/03	78.37	9/9/03	80.07
9/15/03	78.87	9/15/03	78.12	9/15/03	78.55	9/15/03	81.89
9/23/03	79.16	9/23/03	78.29	9/23/03	78.37	9/23/03	80.33
10/2/03	78.42	10/2/03	77.85	10/2/03	77.88	10/2/03	79.51
10/7/03	77.93	10/7/03	77.60	10/7/03	77.60	10/7/03	79.06
10/14/03	77.38	10/14/03	77.22	10/14/03	77.18	10/14/03	78.93
10/21/03	76.83	10/21/03	76.90	10/21/03	76.69	10/21/03	78.35
10/30/03	76.05	10/30/03	76.06	10/30/03	76.06	10/30/03	77.88
11/5/03	75.83	11/5/03	76.20	11/5/03	75.91	11/5/03	77.71
11/19/03	74.97	11/19/03	75.45	11/19/03	75.07	11/19/03	76.95
12/1/03		12/1/03	74.87	12/1/03	74.54	12/1/03	76.39
12/8/03		12/8/03	74.54	12/8/03	74.17	12/8/03	76.02
12/17/03		12/17/03	74.11	12/17/03	73.79	12/17/03	75.60
12/22/03		12/22/03	73.79	12/22/03	73.36	12/22/03	75.39
12/29/03		12/29/03	73.56	12/29/03	73.26	12/29/03	75.16
4/14/04	DRY	4/14/04	71.31	4/14/04	70.90	4/14/04	71.16

**TABLE 1**  
**WATER LEVEL ELEVATIONS**  
**ENTERPRISE RECYCLING AND DISPOSAL FACILITY**  
**DADE CITY, FLORIDA**

P-6		P-8		P-11		TP	
6/30/03	74.53	6/30/03	72.84	6/30/03	104.37	6/30/03	76.93
7/8/03	75.18	7/8/03	73.60	7/8/03	105.36	7/8/03	76.51
7/17/03	75.43	7/17/03	73.89	7/17/03	106.41	7/17/03	76.12
8/4/03	75.93	8/4/03	74.39	8/4/03	107.43	8/4/03	76.00
8/11/03	76.21	8/11/03	74.65	8/11/03	107.46	8/11/03	76.44
8/19/03	76.37	8/19/03	74.83	8/19/03	107.65	8/19/03	75.78
8/25/03	76.74	8/25/03	75.89	8/25/03	107.83	8/25/03	76.18
9/2/03	77.05	9/2/03	75.51	9/2/03	108.11	9/2/03	76.87
9/9/03	77.16	9/9/03	75.63	9/9/03	108.29	9/9/03	77.13
9/15/03	77.30	9/15/03	75.79	9/15/03	108.45	9/15/03	77.46
9/23/03	77.34	9/23/03	75.82	9/23/03	108.59	9/23/03	77.35
10/2/03	77.12	10/2/03	75.59	10/2/03	108.55	10/2/03	77.32
10/7/03	76.88	10/7/03	75.36	10/7/03	108.45	10/7/03	77.20
10/14/03	76.61	10/14/03	75.09	10/14/03	108.28	10/14/03	77.14
10/21/03	76.24	10/21/03	74.74	10/21/03	107.96	10/21/03	76.89
10/30/03	75.68	10/30/03	74.17	10/30/03	107.44	10/30/03	76.67
11/5/03	75.53	11/5/03	74.05	11/5/03	107.34	11/5/03	76.43
11/19/03	74.76	11/19/03	73.28	11/19/03	106.60	11/19/03	75.77
12/1/03	74.28	12/1/03	72.77	12/1/03	105.90	12/1/03	75.32
12/8/03	73.94	12/8/03	72.44	12/8/03	105.49	12/8/03	
12/17/03	73.60	12/17/03	72.08	12/17/03	104.96	12/17/03	
12/22/03	73.16	12/22/03	71.60	12/22/03	104.69	12/22/03	
12/29/03	73.08	12/29/03	71.55	12/29/03	104.35	12/29/03	
4/14/04	70.86	4/14/04	69.29	4/14/04	99.35	4/14/04	

# TETRA TECH / HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## EXECUTIVE TEAM:

Gerald C. Hartman, P.E., DEE  
Arnold E. Schmidt, Jr., P.E., DEE  
James E. Christopher, P.E.  
Charles W. Drake, P.G.  
Mark A. Rynning, P.E., M.B.A.  
William D. Musser, P.E., P.H.  
Lawrence E. Jenkins, P.S.M.

## SENIOR ASSOCIATES:

Marco H. Rocca, C.M.C.  
Roderick K. Cashe, P.E.  
Douglas P. Dufresne, P.G.  
Jon D. Fox, P.E.  
Troy E. Layton, P.E., DEE  
Daniel M. Nelson, P.E.

## ASSOCIATES:

Les H. Porterfield, P.E.  
Andrew T. Woodcock, P.E., M.B.A.  
John P. Toomey, P.E.  
Jennifer L. Woodall, P.E.  
Rafael A. Terrero, P.E., DEE  
Jill M. Hudkins, P.E.  
Valerie C. Davis, P.G.  
Charles M. Shultz, P.E.  
Sean M. Parks, AICP, QEP  
C. Michelle Gaylord  
Tara L. Hollis, C.P.A., M.B.A.  
W. Bruce Lafrenz, P.G.  
Alexis K. Stewart, P.E.  
Christopher W. Hardin, P.E.  
James R. Warner, E.I.

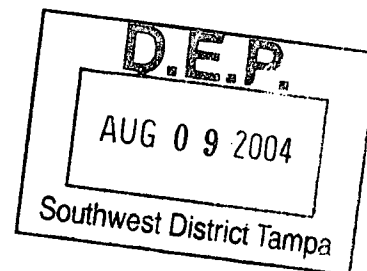
August 5, 2004

HAI #99.0331.016

File 13.2

## Via UPS Overnight

Ms. Simone Core, P.E.  
FDEP Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619



**Subject: Enterprise Recycling & Disposal Facility  
Minor Modification to Construction and Operation Permit  
Pending Modification Nos.: 0177982-005-SO/MM and 0177982-006-SC/MM  
Pasco County, Florida**

Dear Ms. Core:

On behalf of Angelo's Aggregate Materials, Ltd., Hartman & Associates, Inc. (HAI) is submitting this response to your request for additional information, dated July 15, 2004, for the above referenced permit modification requests. Your comments are stated below with our responses following. All revised report text has been indicated by underline or strikethrough as necessary. Previously text revisions have been accepted throughout the Engineering Report and Operations Plan. Revisions to drawing sheets have been added as necessary.

## Comments from Simone Core:

1. The requested information and comments below do not repeat the information submitted by the applicant. However, every effort has been made to concisely refer to the section, page, drawing detail number, etc. where the information has been presented in the original submittal.

**Response:** Acknowledged.

2. Please submit four (4) copies of all requested information. Please specify if revised information is intended to supplement, or replace, previously submitted information. Please submit all revised plans and reports as a complete package. For revisions to the

narrative reports, deletions may be struck through (~~struck through~~) and additions may be shaded ~~shaded~~ or similar notation method. This format will expedite the review process. Please include revision date on all revised pages.

**Response:** Four copies of the revised documents are attached.

3. Please provide a summary of all revisions to drawings, and indicate the revision on each of the applicable plan sheets. Please use a consistent numbering system for drawings. If new sheets must be added to the original plan set, please use the same numbering system with a prefix or suffix to indicate the sheet was an addition, e.g. Sheet 1A, 1B, P1-A, etc.

**Response:** Revisions to plan sheets have been indicated as requested.

4. Please be advised that although some comments do not explicitly request additional information, the intent of all comments shall be to request revised calculations, narrative, technical specifications, QA documentation, plan sheets, clarification to the item, and/or other information as appropriate. Please be reminded that all calculations must be signed and sealed by the registered professional engineer (or geologist as appropriate) who prepared them.

**Response:** Acknowledged.

5. Please submit a revised DEP Form 62-701.900(1) that addresses the proposed construction and fill sequence modification. The form must include the signature of the applicant and the signature, date of signature and seal of a profession engineer registered in the State of Florida.

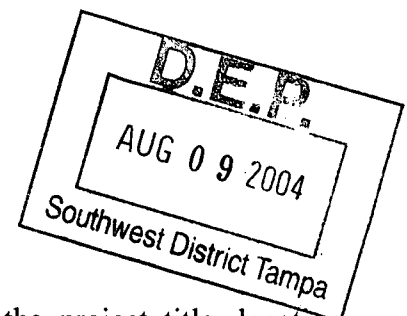
**Response:** The application form is attached.

6. Please address the comments in John Morris' July 8, 2004 memorandum (attached) regarding the groundwater monitoring at the site.

**Response:** Responses to Mr. Morris' comments are included in this submittal.

7. Please provide a copy of the approved stormwater permit modification for the Class III disposal facility.

**Response:** A copy of the approved stormwater permit modification is attached.



8. The engineering report must contain a cover sheet stating the project title, location, applicant's name, and the engineer's name, address, signature, date of signature and seal. Please provide a cover sheet for the engineering report that meets these requirements. [Rule 62-701.320(7)(d)1, F.A.C.]

**Response:** A cover page for the engineering report is attached, along with a full copy of the engineering report document.

9. Section 3.6.3. Please provide a drawing depicting the 6-foot security fence along perimeter of the site. In addition, paragraph one is inconsistent as to whether the chain link fence "has been" or "will be" installed. Please also clarify whether the FDEP setbacks have been surveyed and marked or provide a timeframe for completing this task.

**Response:** Section 3.6.3 has been revised to more clearly describe the fence. A 6-foot chain link fence has been installed around the southern, eastern, and northern property boundaries. A 5-foot post and wire fence is in place around the western boundary. Sheet C-1 has been revised to indicate the approximate fence location. Setbacks have been surveyed and marked around the active portion of the landfill property. Survey markers have been installed to indicate the waste disposal setbacks and disposal areas that are certified.

10. Section 3.7 states that the bottom of the cells is at least 5 feet above the seasonal high water table, however the initial sampling event (conducted July 2003) indicates that the ground water table is higher than indicated in the "Hydrogeological Investigation and Groundwater Monitoring Plan", prepared by HAI, dated May 18, 2001 (also see comment 3 of John Morris' July 8, 2004 memorandum). Please address and provide a drawing, as well as a table indicating the base elevation for each of the cells to be filled in sequence 1 and 2.

**Response:** The base grades of the landfill were designed based on the estimated seasonal high water table. Angelo's acknowledges that the water elevation in the area of Cell 1 was estimated to be approximately 71.5 feet, NGVD during the July 2003 groundwater sampling event. We believe the water level was affected by the unusually high amount of rainfall in the summer and fall of 2003. As the rainfall decreased, the water level decreased as well, as indicated in the April 2004 monitoring report. The five-foot separation from the estimated seasonal high water table allow a factor of safety for occurrences such as these. At this time, Angelo's does not intend to proposed new base grades for the landfill. Please also see our response to comment 3 from Mr. Morris.

11. Section 3.7 - Figure 3-7 (C-2). The sequence of excavation identified by phase numbers needs to be updated, since a portion of cell 5 will be excavated for use as part of the stormwater control system prior to filling in cell 15.

**Response:** The excavation phasing, as shown on Figure 3-7 (C-2) has been revised as requested.

12. Section 3.7. Please provide a drawing that shows the base elevation for each of the cells to be filled in sequence 1 and 2.

**Response:** The revised Figure 3-7 (C-2) illustrates the base elevations for the entire landfill.

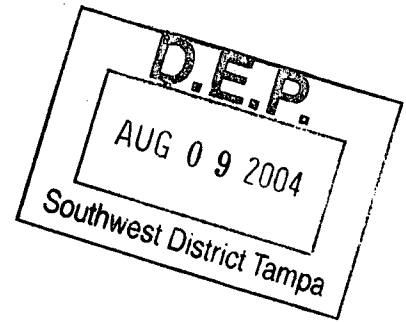
13. Section 3.7. Please indicate the source of the confining material and clarify how the laboratory proctor test will be used to determine the permeability of the cell floor material. In addition, please define what will be considered "acceptable test results".

**Response:** Material stockpiles are generated from excavation of the landfill. Material that is visually acceptable for confining material (no large limestone fragments or excessive sand content) is laboratory tested to ensure it will meet the construction permit requirements. Laboratory proctor tests include permeability test results in addition to the optimum moisture content for compaction. "Acceptable test results" means the results of the laboratory proctor test indicate that the permeability of the material meets the requirements of the construction permit, and the optimum moisture content is not too high for the equipment to manage.

14. Section 3.8, second paragraph. The narrative on the fill sequence is inconsistent with the drawings provided. Please note that cell 2 is not west of cell 15 and cell 13 is not included in sequence 1 and 2. Please revise this section of the Engineering Report to be consistent with the other portions of the application.

**Response:** We acknowledge that Cell 2 is not west of Cell 15. The intent of the statement in Section 3.8 was to include Cell 2 in the portions of the landfill to the west and south of the filled area. The statement has been revised to more clearly describe the location of Cell 2. The reference to Cell 13 has been revised to reference Cell 5.

15. Section 3.8. Please provide a table that shows the corresponding stormwater pond that will be constructed with each sequence of fill.



**Response:** The Temporary Pond (currently in modification activities) and Pond 1 are constructed. Pond 2, currently under construction, is to be completed once the waste in the eastern cells reaches natural grade. The modification approval for the Temporary Pond included a slight modification in the location of Pond 2. A copy of this modification is attached for your reference. Pond 3 is to be completed prior to disposal in Cell 13. Please see the summary table below.

Pond	Time of Completion	Status
Temporary Pond	Prior to initiation of disposal activities	Previously completed, with a modification in progress
Pond 1	Prior to initiation of disposal activities	Completed
Pond 2	Prior to waste reaching natural grade in the eastern cells	In progress
Pond 3	Prior to disposal in Cell 13	Not constructed

16. Section 3.8.3. Please submit a revised Table 1 showing the sequence of fill as proposed under this permit modification application.

**Response:** Angelo's does not propose to rename the cells, only the order in which they are initially used for waste disposal. Table 1 has been revised to indicate the revised excavation phasing of the cells.

17. Section 3.9 – Figure C-1 is no longer valid for illustrating the cell closure sequence, since cell 15 is now part of sequence 1 and 2. Please provide a revised drawing depicting the cell closure sequence.

**Response:** As stated in the response to comment 16, Angelo's does not propose to rename the cells. Rather, closure is proposed to occur as the lifts are completed above natural grade, as described in Section 3.8 of the Engineering Report. Plan sheet C-1 has been revised to show the modified excavation phasing.

18. Section 3.10.1.1. Please provide a drawing that shows the location of the gas probes that will be installed for the revised fill sequence 1 and 2, as well as the location of existing gas probes.

**Response:** Please see the attached Figure 1, Well Location Map. Locations of all approved gas probe locations are indicated by the designation GP-#. Probes GP-9, GP-10, GP-11, GP-12, GP-13, and GP-14 are installed and included in the quarterly gas monitoring activities. Probes

GP-6, GP-7, and GP-8 are proposed to be installed within 60 days of the issuance of the modified permit. The location of GP-6 has been shifted to the north to avoid future overlapping of Pond 3.

19. Section 3.10.3. Please describe the modification to the temporary stormwater system as a result of the modified fill sequence in this section of the Engineering Report.

**Response:** Section 3.10.3 has been rewritten to describe the current modification to the temporary pond.

20. Please revise Section 1.0 of the Operations Plan by removing the word "proposed" since the disposal facility is currently in operation.

**Response:** The requested revision has been made to Section 1.0.

21. Section 2.3 is inconsistent as to whether the chain link fence "has been" or "will be" installed. Please revise this section accordingly.

**Response:** Section 2.3 has been revised to more clearly describe the fence. A 6-foot chain link fence has been installed around the southern, eastern, and northern property boundaries. A 5-foot post and wire fence is in place around the western boundary. Figure 3-17 has been revised to indicate the approximate fence location.

22. Please revise Section 5.3 to indicate that putrescible waste will not be stored at the disposal facility for longer than 48 hours.

**Response:** Angelo's was previously approved to haul putrescible wastes from the facility on a weekly basis since this waste is stored in a leak proof container with a lid to prevent the generation of leachate and odor. Angelo's is requesting to maintain this schedule for disposal of putrescible waste.

23. Section 8.0. The narrative on the fill sequence is inconsistent with the drawings provided. Please note that cell 2 is not west of cell 15 and cell 13 is not included in sequence 1 and 2. Please revise this section of the Operations Plan to be consistent with the other portions of the application.

**Response:** We acknowledge that Cell 2 is not west of Cell 15. The intent of the statement in Section 8.0 was to include Cell 2 in the portions of the landfill to the west and south of the filled



area. The statement has been revised to more clearly describe the location of Cell 2. The reference to Cell 13 has been revised to reference Cell 5.

24. Figures 3-17 and 3-18 show an existing wire fence around only a portion of the site rather than the "security fence" reference in Section 3.6.3 of the Engineering Report. Please revise Figures 3-17 and 3-18 to show the security fence around the entire perimeter of the site (see Comment 9), the location of the roll-offs for unacceptable waste, the yard waste processing area, recycling area and equipment maintenance area.

**Response:** The figures have been revised as requested.

25. Figure 3-17. Please show the base grades on this drawing. Please note that it is not necessary to show the final elevations for sequence 1, alternatively the final elevations can be shown as very light contour lines.

**Response:** The base grades have been added to this figure as requested.

26. Figure 3-17 is inconsistent with Figure C-2 in regards to the bottom-grading plan for Cell 5. What is the expected water elevation in the temporary pond?

**Response:** The temporary pond grading shown on Figure 3-17 indicates the required grading from the current topography in the area of Cells 5 and 14. The top of bank elevation for the temporary pond is 80 feet, NGVD.

27. Figures 3-17 and 3-18, note 2 is inconsistent with Section 8.1 of the Operations Plan and Section 3.8 of the Engineering Report which state that the working slopes will not exceed 3(H):1(V) prior to 125 feet NGVD. Please correct the appropriate document(s) accordingly.

**Response:** Note 2 on Figure 3-17 and 3-18 has been revised to reflect the text in the Engineering Report and Operations Plan.

28. Please provide North-South and East-West Cross-Sections for Sequence 1 and reference them to the appropriate plan view on Figure 3-17.

**Response:** Cross-sections for Sequence 1 have been generated and are attached for your review.

Ms. Simone Core, P.E.

August 6, 2004

Page 8

29. Figure 3-18 indicates that paved parking, gatehouse and septic tank are proposed. Please verify whether these features are proposed or existing and revise Figure 3-18 accordingly.

**Response:** The paved parking, scale house, and septic tank are installed and Figure 3-18 has been revised accordingly.

30. Please specify the exterior slopes on the cross-section views.

**Response:** The cross-section views have been revised as requested.

**Comments from John Morris:**

Changes to Fill Sequence Nos. 1 and 2

1. Section 3.8 in the document entitled "Engineering Report", prepared by HAI, dated June 15, 2001, anticipated filling Sequence Nos. 1 through 7, including Cells 1 through 16. Accordingly, Section 5.3.1 of the document entitled "Hydrogeological Investigation and Groundwater Monitoring Plan", prepared by HAI, dated May 18, 2001 presented a monitor well phasing schedule that reflected disposal in Cells 1 through 16. The proposed revisions to Section 3.8 of the "Engineering Report" prepared by HAI, dated June 7, 2004, included in the permit modification application indicated that only Sequence Nos. 1 and 2 (Cells 1 through 5 and Cell 15) will be filled prior to expiration of permit No. 177982-002-SO, with the filling of future sequences to be determined during the operating permit renewal. As the monitoring plan is no longer intended to address Cells 1 through 16, please note that it is the Department's intention to modify Specific Condition Nos. 30 and 32.b., of the permit to list only those wells that will be required to be included in the routine sampling events for each of the cells in revised Sequence Nos. 1 and 2. This comment is presented for informational purposes and does not require a response.

**Response:** Acknowledged.

2. The information provided to the Department by Eric Eshom, Southwest Florida Water Management District (SWFWMD), via facsimile on September 8, 2003, indicated that a permit application has been received from Angelo's Aggregate Materials to use an on-site irrigation well for potable ("public supply") purposes. Based on item No. 5 in Stipulation No. 3 of the SWFWMD well construction permit No. 688944.01, the supply well shall be included in the routine sampling events in accordance with Specific Condition No. 32.b., of permit No. 177982-002-SO when the disposal cells become less than 500 feet from the wellhead. Please submit revisions to Section 3.3 of the "Engineering Report" to identify the potable use of this well. Please also submit revisions to Figure 15 of the "Hydrogeological Investigation and

Groundwater Monitoring Plan” to identify the location and unique identification number of this supply well. It is the Department’s intention to modify Specific Condition Nos. 30 and 32.b., to list this supply well and include it in the semi-annual sampling events upon initiation of disposal in Cell No. 2.

**Response:** Section 3.3 of the Engineering Report has been revised to include use of the referenced well. Figure 1 has been revised to include the location of the supply well.

Adequacy of Existing Monitor Wells

3. The initial sampling event results (conducted July 2003, transmitted via HAI letter dated Oct. 16, 2003) and the first routine sampling event results (conducted April 2004, transmitted via HAI letter dated May 20, 2004) appear to indicate ground water elevations that are inconsistent with the document entitled “Hydrogeological Investigation and Groundwater Monitoring Plan”, prepared by HAI, dated May 18, 2001, as follow:

- Figure 9 – Water Table Elevation Map, 3/28/00: Cell 1 elevation about 61 feet NGVD
- Figure 10 – Water Table Elevation Map, 5/2/00: Cell 1 elevation about 60.25 feet NGVD
- Figure 11 – Water Table Elevation Map, 10/25/00: Cell 1 elevation about 61 feet NGVD
- Figure 11.1 – Water Table Elevation Map, 3/26/01: Cell 1 elevation about 58.6 feet NGVD
- Figure 11.2 – Water Table Elevation Map, 5/8/01: Cell 1 elevation about 58 feet NGVD
- Figure 12 – Estimated Seasonal High Water Table Map: Cell 1 elevation about 73 feet NGVD

The contour map provided for the July 2003 sampling event presented the following information:

- Well MW-8 at 78.17 feet NGVD, identified as “perched”
- Well MW-9 was dry
- Well MW-10 at 78.60 feet NGVD, identified as “perched”
- Inferred ground water contour line of 75.9 feet NGVD crossing the north half of Cell 1

**The contour map provided for the April 2004 sampling event presented the following information:**

- Well MW-8 was dry
- Well MW-9 was dry
- Well MW-10 was dry
- Ground water contour line of 71.5 feet NGVD crossing the northwest corner of Cell 1

Ms. Simone Core, P.E.

August 6, 2004

Page 10

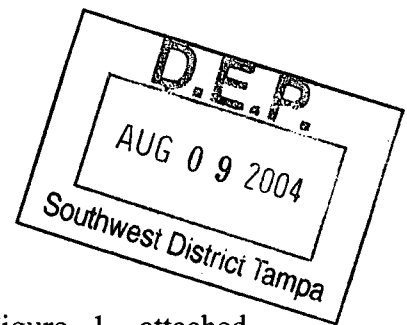
Please submit an evaluation of the ground water elevations reported for the surficial aquifer in the two referenced sampling events and explain the deviations from the Hydrogeological Investigation (revised May 2001) for the cells included in revised Sequence Nos. 1 and 2.

**Response:** Above and below average precipitation are the reasons for the "deviations" in the above referenced figures and groundwater contour maps. Ground water elevations at the site have historically fluctuated. Due to drought conditions experienced in Florida from 1999 through 2002, the ground water elevations reported in the Hydrogeological Investigation (revised May 2001) were likely low when compared to historical conditions in the surficial aquifer. Conversely, ground water elevations were affected by above average rainfall during the summer of 2003. Thus the combination of above average precipitation during 2003 and below average precipitation from 1999 to 2002, are the reason for the deviations in groundwater levels in the surficial aquifer in the two referenced sampling events and the Hydrogeological Investigation (revised May 2001).

The fact that monitor wells MW-8, MW-9, and MW-10 are dry does indicate that the surficial aquifer is only seasonally present at these wells. The depth of occurrence of the Floridan aquifer was not known until the completion of pilot test borings for monitor wells MW-8, MW-9, and MW-10. These conditions could not have been predicted at these monitor well locations without prior pilot test boring information.

4. Section 5.3.1 (Ground Water Monitoring System Design) of the document entitled "Hydrogeological Investigation and Groundwater Monitoring Plan", prepared by HAI, dated May 18, 2001, indicated that eleven downgradient (detection) wells were located at 500 foot intervals to intercept the west to east ground water flow in the surficial aquifer. Based on the results of the July 2003 and April 2004 sampling events, the surficial aquifer may only be seasonally present (MW-8 and MW-10) or absent (MW-9) along a portion of the eastern property boundary. It appears that wells MW-8, MW-9 and MW-10 are not sufficient to meet the requirements of Rule 62-701.510(2)(b), F.A.C., regarding monitoring of the uppermost aquifer. It also appears that the downgradient Floridan aquifer wells (MW-2B, MW-5B, MW-7B and MW-12B) do not meet the spacing requirements of Rule 62-701.510(3)(d)3, F.A.C., if the Floridan aquifer is determined to be the uppermost aquifer. Please submit supplemental monitor well locations and justification of construction details for upper Floridan aquifer wells adjacent to existing wells MW-8, MW-9 and MW-10. Please also submit revisions to Figure 15 of the "Hydrogeological Investigation and Groundwater Monitoring Plan" to identify the locations and unique identification numbers of these supplemental wells.

Ms. Simone Core, P.E.  
August 6, 2004  
Page 11



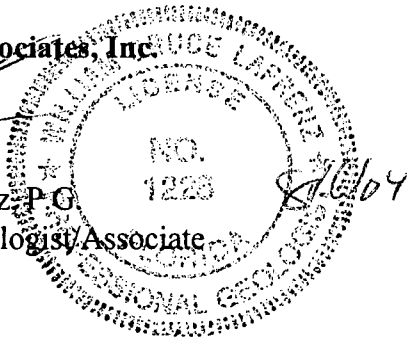
**Response:** Supplemental monitor well locations are included in Figure 1, attached. Justification of construction details for the upper Floridan aquifer wells adjacent to the existing wells MW-8, MW-9, and MW-10 is included in the form of boring logs from the each of the adjacent wells, and a proposed monitor well construction diagram, Figure 2. The location and unique identification numbers of the supplemental wells are included on Figure 1.

We trust this information is sufficient to allow issuance of the requested permit modifications. Please call us if you have any questions or if you require any additional information.

Very truly yours,

Hartman & Associates, Inc.

W. Bruce Lafrenz, P.G.  
Senior Hydrogeologist/Associate



Jennifer L. Deal, P.E.  
8/6/04 Project Manager

WBL/JLD/cr/99.0331.016/corresp/Core.jld

Attachments

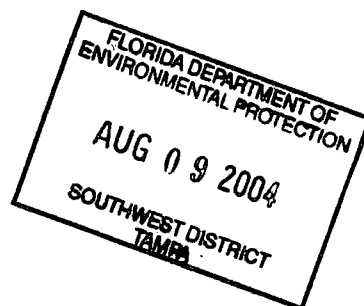
cc: Dominic Iafrate, Angelo's  
Jeff Rogers, Angelo's  
Susan Pelz, P.E., FDEP  
John Morris, P.G., FDEP

MODIFICATION APPLICATION FORM



Florida Department of Environmental Protection  
Twin Towers Office Bldg. 2600 Blair Stone Road Tallahassee, FL 32399-2400

DEP Form # <u>62-701.900(1)</u>
Form Title <u>Solid Waste Management Facility Permit</u>
Effective Date <u>05-27-01</u>
DEP Application No. _____ (Filled by DEP)



STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

APPLICATION FOR A PERMIT TO CONSTRUCT,  
OPERATE, MODIFY OR CLOSE  
A SOLID WASTE MANAGEMENT FACILITY

APPLICATION INSTRUCTIONS AND FORMS

Northwest District  
160 Governmental Center  
Pensacola, FL 32501-5794  
850-595-8360

Northeast District  
7825 Baymeadows Way, Ste. 8200  
Jacksonville, FL 32256-7590  
904-448-4300

Central District  
3319 Maguire Blvd., Ste. 232  
Orlando, FL 32803-3767  
407-894-7555

Southwest District  
3804 Coconut Palm Dr.  
Tampa, FL 33619  
813-744-6100

South District  
2295 Victoria Ave., Ste. 364  
Fort Myers, FL 33901-3881  
941-332-6975

Southeast District  
400 North Congress Ave.  
West Palm Beach, FL 33401  
561-681-6600

## INSTRUCTIONS TO APPLY FOR A SOLID WASTE MANAGEMENT FACILITY PERMIT

### I. General

Solid Waste Management Facilities shall be permitted pursuant to Section 403.707, Florida Statutes, (FS) and in accordance with Florida Administrative Code (FAC) Chapter 62-701. A minimum of four copies of the application shall be submitted to the Department's District Office having jurisdiction over the facility. The appropriate fee in accordance with Rule 62-701.315, FAC, shall be submitted with the application by check made payable to the Department of Environmental Protection (DEP).

Complete appropriate sections for the type of facility for which application is made. Entries shall be typed or printed in ink. All blanks shall be filled in or marked "not applicable" or "no substantial change". Information provided in support of the application shall be marked "submitted" and the location of this information in the application package indicated. The application shall include all information, drawings, and reports necessary to evaluate the facility. Information required to complete the application is listed on the attached pages of this form.

### II. Application Parts Required for Construction and Operation Permits

- A. Landfills and Ash Monofills - Submit parts A,B, D through T
- B. Asbestos Monofills - Submit parts A,B,D,E,F,G,J,L,N, P through S, and T
- C. Industrial Solid Waste Facilities - Submit parts A,B, D through T
- D. Non-Disposal Facilities - Submit parts A,C,D,E,J,N,S and T

NOTE: Portions of some parts may not be applicable.

NOTE: For facilities that have been satisfactorily constructed in accordance with their construction permit, the information required for A,B,C and D type facilities does not have to be resubmitted for an operation permit if the information has not substantially changed during the construction period. The appropriate portion of the form should be marked "no substantial change".

### III. Application Parts Required for Closure Permits

- A. Landfills and Ash Monofills - Submit parts A,B,M, O through T
- B. Asbestos Monofills - Submit parts A,B,N, P through T
- C. Industrial Solid Waste Facilities - Submit parts A,B, M through T
- D. Non-Disposal Facilities - Submit parts A,C,N,S and T

NOTE: Portions of some parts may not be applicable.

### IV. Permit Renewals

The above information shall be submitted at time of permit renewal in support of the new permit. However, facility information that was submitted to the Department to support the expiring permit, and which is still valid, does not need to be re-submitted for permit renewal. Portions of the application not re-submitted shall be marked "no substantial change" on the application form.



V. Application Codes

S	-	Submitted
LOCATION	-	Physical location of information in application
N/A	-	Not Applicable
N/C	-	No Substantial Change

VI. LISTING OF APPLICATION PARTS

PART A:	GENERAL INFORMATION
PART B:	DISPOSAL FACILITY GENERAL INFORMATION
PART C:	NON-DISPOSAL FACILITY GENERAL INFORMATION
PART D:	PROHIBITIONS
PART E:	SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL
PART F:	LANDFILL PERMIT REQUIREMENTS
PART G:	GENERAL CRITERIA FOR LANDFILLS
PART H:	LANDFILL CONSTRUCTION REQUIREMENTS
PART I:	HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS
PART J:	GEOTECHNICAL INVESTIGATION REQUIREMENTS
PART K:	VERTICAL EXPANSION OF LANDFILLS
PART L:	LANDFILL OPERATION REQUIREMENTS
PART M:	WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS
PART N:	SPECIAL WASTE HANDLING REQUIREMENTS
PART O:	GAS MANAGEMENT SYSTEM REQUIREMENTS
PART P:	LANDFILL CLOSURE REQUIREMENTS
PART Q:	CLOSURE PROCEDURES
PART R:	LONG TERM CARE REQUIREMENTS
PART S:	FINANCIAL RESPONSIBILITY REQUIREMENTS
PART T:	CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
APPLICATION FOR A PERMIT TO CONSTRUCT, OPERATE, MODIFY OR CLOSE  
A SOLID WASTE MANAGEMENT FACILITY

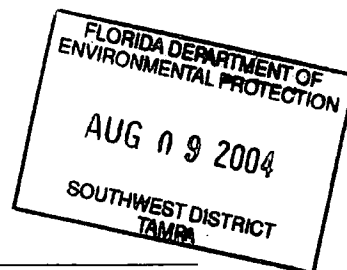
Please Type or Print

A. GENERAL INFORMATION

1. Type of facility (check all that apply):

- |  |   |
|--|---|
| <input type="checkbox"/> Disposal                      |   |
| <input type="checkbox"/> Class I Landfill              | <input type="checkbox"/> Ash Monofill           |
| <input type="checkbox"/> Class II Landfill             | <input type="checkbox"/> Asbestos Monofill      |
| <input checked="" type="checkbox"/> Class III Landfill | <input type="checkbox"/> Industrial Solid Waste |
| <input type="checkbox"/> Other Describe: _____         |   |

- ☐ Non-Disposal
- |  |
|--|
| <input type="checkbox"/> Incinerator For Non-biomedical Waste              |
| <input type="checkbox"/> Waste to Energy Without Power Plant Certification |
| <input type="checkbox"/> Other Describe: _____                             |



NOTE: Waste Processing Facilities should apply on Form 62-701.900(4), FAC;  
Land Clearing Disposal Facilities should notify on Form 62-701.900(3), FAC;  
Compost Facilities should apply on Form 62-701.900(10), FAC; and  
C&D Disposal Facilities should apply on Form 62-701.900(6), FAC

2. Type of application:

- |  |
|--|
| <input type="checkbox"/> Construction                      |
| <input type="checkbox"/> Operation                         |
| <input checked="" type="checkbox"/> Construction/Operation |
| <input type="checkbox"/> Closure                           |

3. Classification of application:

- |                                  |  |
|----------------------------------|--|
| <input type="checkbox"/> New     | <input type="checkbox"/> Substantial Modification      |
| <input type="checkbox"/> Renewal | <input type="checkbox"/> Intermediate Modification     |
|                                  | <input checked="" type="checkbox"/> Minor Modification |

4. Facility name: Enterprise Recycling and Disposal Facility

5. DEP ID number: 0177982 County: Pasco

6. Facility location (main entrance): 41111 Enterprise Road  
Dade City, Florida 33525

7. Location coordinates:

Section: 5,8 Township: 25S Range: 22E

Latitude: 28 ° 19 ' 53 " Longitude: 82 ° 08 ' 06 "

8. Applicant name (operating authority): Angelo's Aggregate Materials, Ltd.  
Mailing address: 1755 20th Avenue S.E., Largo, Florida 33771  
Street or P.O. Box City State Zip  
Contact person: Dominic Iafrate Telephone: ( 586 ) 756-1070 x-640  
Title: President  
diafrate@iafrate.com  
E-Mail address (if available)
9. Authorized agent/Consultant: Hartman & Associates, Inc.  
Mailing address: 201 E. Pine Street, Ste. 1000, Orlando, Florida 32801  
Street or P.O. Box City State Zip  
Contact person: Jennifer L. Deal, P.E. Telephone: ( 407 ) 839-3955  
Title: Project Manager  
jld@consulthai.com  
E-Mail address (if available)
10. Landowner(if different than applicant): same  
Mailing address: \_\_\_\_\_  
Street or P.O. Box City State Zip  
Contact person: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_  
E-Mail address (if available)
11. Cities, towns and areas to be served: Pasco County and  
surrounding areas
12. Population to be served:  
Current: 1,929,360 Five-Year Projection: 2,027,776
13. Date site will be ready to be inspected for completion: Ongoing construction
14. Expected life of the facility: 30 years
15. Estimated costs:  
Total Construction: \$ 100,000 Closing Costs: \$ 456,612.14
16. Anticipated construction starting and completion dates:  
From: Ongoing To: Ongoing
17. Expected volume or weight of waste to be received:  
1,500 yds<sup>3</sup>/day \_\_\_\_\_ tons/day \_\_\_\_\_ gallons/day

B. DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of disposal facility design and operations planned under this application:

The facility is a permitted Class I mine and Class III landfill.

2. Facility site supervisor: Jeff Rogers  
Title: Operations Manager Telephone: ( 352 ) 567-7676

E-Mail address (if available)

3. Disposal area: Total 111 acres; Used 6 acres; Available 105 acres.

4. Weighing scales used: ☒ Yes ☐ No

5. Security to prevent unauthorized use: ☒ Yes ☐ No

6. Charge for waste received: 9.50 \$/yds<sup>3</sup> \_\_\_\_\_ \$/ton

7. Surrounding land use, zoning:

<input type="checkbox"/> Residential	<input type="checkbox"/> Industrial
<input checked="" type="checkbox"/> Agricultural	<input type="checkbox"/> None
<input type="checkbox"/> Commercial	<input type="checkbox"/> Other Describe: _____

8. Types of waste received:

<input type="checkbox"/> Residential	<input checked="" type="checkbox"/> C & D debris
<input type="checkbox"/> Commercial	<input checked="" type="checkbox"/> Shredded/cut tires
<input type="checkbox"/> Incinerator/WTE ash	<input checked="" type="checkbox"/> Yard trash
<input type="checkbox"/> Treated biomedical	<input type="checkbox"/> Septic tank
<input type="checkbox"/> Water treatment sludge	<input type="checkbox"/> Industrial
<input type="checkbox"/> Air treatment sludge	<input type="checkbox"/> Industrial sludge
<input type="checkbox"/> Agricultural	<input type="checkbox"/> Domestic sludge
<input checked="" type="checkbox"/> Asbestos	
<input checked="" type="checkbox"/> Other Describe: _____	Waste classified as Class III

9. Salvaging permitted: ☐ Yes ☒ No

10. Attendant: ☒ Yes ☐ No Trained operator: ☒ Yes ☐ No

11. Spotters: Yes ☒ No ☐ Number of spotters used: 2

12. Site located in: ☐ Floodplain ☐ Wetlands ☐ Other \_\_\_\_\_

13. Property recorded as a Disposal Site in County Land Records: ☐ Yes ☒ No
14. Days of operation: Monday through Friday; Saturday
15. Hours of operation: 7 a.m. to 6 p.m.; 7 a.m. to 2 p.m.
16. Days Working Face covered: Once per week
17. Elevation of water table: 61 - 85 Ft. (NGVD 1929)
18. Number of monitoring wells: 2 upgradient, 14 downgradient
19. Number of surface monitoring points: None
20. Gas controls used: ☒ Yes ☐ No Type controls: ☐ Active ☒ Passive  
Gas flaring: ☐ Yes ☒ No Gas recovery: ☐ Yes ☒ No
21. Landfill unit liner type:  
☐ Natural soils ☐ Double geomembrane  
☐ Single clay liner ☐ Geomembrane & composite  
☐ Single geomembrane ☐ Double composite  
☐ Single composite ☒ None  
☐ Slurry wall  
☐ Other Describe: \_\_\_\_\_
22. Leachate collection method:  
☐ Collection pipes ☐ Sand layer  
☐ Geonets ☐ Gravel layer  
☐ Well points ☐ Interceptor trench  
☐ Perimeter ditch ☒ None  
☐ Other Describe: \_\_\_\_\_
23. Leachate storage method:  
☐ Tanks  
☐ Surface impoundments  
☐ Other Describe: N/A
24. Leachate treatment method:  
☐ Oxidation ☐ Chemical treatment  
☐ Secondary ☐ Settling  
☐ Advanced  
☐ None  
☐ Other N/A

25. Leachate disposal method:

- |  |  |
|--|--|
| <input type="checkbox"/> Recirculated        | <input type="checkbox"/> Pumped to WWTP              |
| <input type="checkbox"/> Transported to WWTP | <input type="checkbox"/> Discharged to surface water |
| <input type="checkbox"/> Injection well      | <input type="checkbox"/> Percolation ponds           |
| <input type="checkbox"/> Evaporation         |  |
| <input type="checkbox"/> Other               | <u>N/A</u>   |

26. For leachate discharged to surface waters:

Name and Class of receiving water: N/A

27. Storm Water:

Collected: ☒ Yes ☐ No

Type of treatment: Retention

Name and Class of receiving water: On-site Retention Ponds

28. Environmental Resources Permit (ERP) number or status: 51-0172489-006

issued 07/09/04

C. NON-DISPOSAL FACILITY GENERAL INFORMATION

1. Provide brief description of the non-disposal facility design and operations planned under this application:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Facility site supervisor: \_\_\_\_\_

Title: \_\_\_\_\_ Telephone: ( ) \_\_\_\_\_

\_\_\_\_\_  
E-Mail address (if available)

3. Site area: Facility \_\_\_\_\_ acres; Property \_\_\_\_\_ acres

4. Security to prevent unauthorized use: ☐ Yes ☐ No

5. Site located in: ☐ Floodplain ☐ Wetlands ☐ Other \_\_\_\_\_

6. Days of operation: \_\_\_\_\_

7. Hours of operation: \_\_\_\_\_

8. Number of operating staff: \_\_\_\_\_

9. Expected useful life: \_\_\_\_\_ Years

10. Weighing scales used: ☐ Yes ☐ No

11. Normal processing rate: \_\_\_\_\_ yd<sup>3</sup>/day \_\_\_\_\_ tons/day \_\_\_\_\_ gal/day

12. Maximum processing rate: \_\_\_\_\_ yd<sup>3</sup>/day \_\_\_\_\_ tons/day \_\_\_\_\_ gal/day

13. Charge for waste received: \_\_\_\_\_

14. Storm Water Collected: ☐ Yes ☐ No

Type of treatment: \_\_\_\_\_

Name and Class of receiving water: \_\_\_\_\_

15. Environmental Resources Permit (ERP) number or status: \_\_\_\_\_  
\_\_\_\_\_

16. Final residue produced:

\_\_\_\_\_ % of normal processing rate \_\_\_\_\_ % of maximum processing rate

\_\_\_\_\_ Tons/day \_\_\_\_\_ Tons/day

Disposed of at:

Facility name: \_\_\_\_\_ County: \_\_\_\_\_

17. Estimated operating costs: \$ \_\_\_\_\_  
Total cost/ton: \$ \_\_\_\_\_ Net cost/ton: \$ \_\_\_\_\_
18. Provide a site plan, at a scale not greater than 200 feet to the inch, which shows the facility location and identifies the proposed waste and final residue storage areas, total acreage of the site, and any other features which are relevant to the prohibitions or location restrictions in Rule 62-701.300, FAC, such as water bodies or wetlands on or within 200 feet of the site, and potable water wells on or within 500 feet of the site.
19. Provide a description of how the waste and final residue will be managed to not be expected to cause violations of the Department's ground water, surface water or air standards or criteria
20. Provide an estimate of the maximum amount of waste and final residue that will be store on-site.
21. Provide a detailed description of the technology use at the facility and the functions of all processing equipment that will be utilized. The descriptions shall explain the flow of waste and residue through all the proposed unit operations and shall include: (1) regular facility operations as they are expected to occur; (2) procedures for start up operations, and scheduled and unscheduled shut down operations; (3) potential safety hazards and control methods, including fire detection and control; (4) a description of any expected air emissions and wastewater discharges from the facility which may be potential pollution sources; (5) a description and usage rate of any chemical or biological additives that will be used in the process; and (6) process flow diagrams for the facility operations.
22. Provide a description of the loading, unloading and processing areas.
23. Provide a description of the leachate control system that will be used to prevent discharge of leachate to the environment and mixing of leachate with stormwater. Note: Ground water monitoring may be required for the facility depending on the method of leachate control used.
24. Provide an operation plan for the facility which includes: (1) a description of general facility operations, the number of personnel responsible for the operations including their respective job descriptions, and the types of equipment that will be used at the facility; (2) procedures to ensure any unauthorized wastes received at the site will be properly managed; (3) a contingency plan to cover operation interruptions and emergencies such as fires, explosions, or natural disasters; (4) procedures to ensure operational records needed for the facility will be adequately prepared and maintained; and (5) procedures to ensure that the wastes and final residue will be managed to not be expected to cause pollution.
25. Provide a closure plan that describes the procedures that will be implemented when the facility closes including: (1) estimated time to complete closure; (2) procedures for removing and properly managing or disposing of all wastes and final residues; (3) notification of the Department upon ceasing operations and completion of final closure.



D. PROHIBITIONS (62-701.300, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>		
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	1.	Provide documentation that each of the siting criteria will be satisfied for the facility; (62-701.300(2), FAC)
—	—	<u>X</u>	—	2.	If the facility qualifies for any of the exemptions contained in Rules 62-701.300(12) through (16), FAC, then document this qualification(s).
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	3.	Provide documentation that the facility will be in compliance with the burning restrictions; (62-701.300(3), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	4.	Provide documentation that the facility will be in compliance with the hazardous waste restrictions; (62-701.300(4), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	5.	Provide documentation that the facility will be in compliance with the PCB disposal restrictions; (62-701.300(5), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	6.	Provide documentation that the facility will be in compliance with the biomedical waste restrictions; (62-701.300(6), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	7.	Provide documentation that the facility will be in compliance with the Class I surface water restrictions; (62-701.300(7), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	8.	Provide documentation that the facility will be in compliance with the special waste for landfills restrictions; (62-701.300(8), FAC)
—	—	<u>X</u>	—	9.	Provide documentation that the facility will be in compliance with the special waste for waste-to-energy facilities restrictions; (62-701.300(9), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	10.	Provide documentation that the facility will be in compliance with the liquid restrictions; (62-701.300(10), FAC)
<u>X</u>	<u>Sec. 3.2.1</u>	—	—	11.	Provide documentation that the facility will be in compliance with the used oil restrictions; (62-701.300(11), FAC)

E. SOLID WASTE MANAGEMENT FACILITY PERMIT REQUIREMENTS, GENERAL (62-701.320, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>X</u>	_____	___	___	1. Four copies, at minimum, of the completed application form, all supporting data and reports; (62-701.320(5)(a), FAC)
<u>X</u>	_____	___	___	2. Engineering and/or professional certification (signature, date and seal) provided on the applications and all engineering plans, reports and supporting information for the application; (62-701.320(6), FAC)
<u>X</u>	_____	___	___	3. A letter of transmittal to the Department; (62-701.320(7)(a), FAC)
<u>X</u>	_____	___	___	4. A completed application form dated and signed by the applicant; (62-701.320(7)(b), FAC)
<u>X</u>	_____	___	___	5. Permit fee specified in Rule 62-701.315, FAC in check or money order, payable to the Department; (62-701.320(7)(c), FAC)
<u>X</u>	<u>Sec. 3</u>	___	___	6. An engineering report addressing the requirements of this rule and with the following format: a cover sheet, text printed on 8 1/2 inch by 11 inch consecutively numbered pages, a table of contents or index, the body of the report and all appendices including an operation plan, contingency plan, illustrative charts and graphs, records or logs of tests and investigations, engineering calculations; (62-701.320(7)(d), FAC)
<u>X</u>	<u>App. 3-A</u>	___	___	7. Operation Plan and Closure Plan; (62-701.320(7)(e)1, FAC)
<u>X</u>	<u>App. 3-B</u>	___	___	8. Contingency Plan; (62-701.320(7)(e)2, FAC)
				9. Plans or drawings for the solid waste management facilities in appropriate format (including sheet size restrictions, cover sheet, legends, north arrow, horizontal and vertical scales, elevations referenced to NGVD 1929) showing; (62-702.320(7)(f), FAC)
___	_____	___	<u>X</u>	a. A regional map or plan with the project location;
___	_____	___	<u>X</u>	b. A vicinity map or aerial photograph no more than 1 year old;
___	_____	___	<u>X</u>	c. A site plan showing all property boundaries certified by a registered Florida land surveyor;

S      LOCATION      N/A    N/C

PART E CONTINUED

X    Sec. 3      \_\_\_\_\_

d. Other necessary details to support the engineering report.

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_ X

10. Documentation that the applicant either owns the property or has legal authority from the property owner to use the site; (62-701.320(7)(g), FAC)

\_\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_\_

11. For facilities owned or operated by a county, provide a description of how, if any, the facilities covered in this application will contribute to the county's achievement of the waste reduction and recycling goals contained in Section 403.706,FS; (62-701.320(7)(h), FAC)

X    App. 3-A  
Sec. 24.0      \_\_\_\_\_

12. Provide a history and description of any enforcement actions taken by the Department against the applicant for violations of applicable statutes, rules, orders or permit conditions relating to the operation of any solid waste management facility in this state; (62-701.320(7)(i), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_ X

13. Proof of publication in a newspaper of general circulation of notice of application for a permit to construct or substantially modify a solid waste management facility; (62-702.320(8), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_ X

14. Provide a description of how the requirements for airport safety will be achieved including proof of required notices if applicable. If exempt, explain how the exemption applies; (62-701.320(13), FAC)

X    App. 3-A  
Sec. 15.1      \_\_\_\_\_

15. Explain how the operator training requirements will be satisfied for the facility; (62-701.320(15), FAC)

F. LANDFILL PERMIT REQUIREMENTS (62-701.330, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
			<u>X</u>	1. Vicinity map or aerial photograph no more than 1 year old and of appropriate scale showing land use and local zoning within one mile of the landfill and of sufficient scale to show all homes or other structures, water bodies, and roads other significant features of the vicinity. All significant features shall be labeled; (62-701.330(3)(a), FAC)
			<u>X</u>	2. Vicinity map or aerial photograph no more than 1 year old showing all airports that are located within five miles of the proposed landfill; (62-701.330(3)(b), FAC)
<u>X</u>	Sec. 3 C-1			3. Plot plan with a scale not greater than 200 feet to the inch showing; (62-701.330(3)(c), FAC)
			<u>X</u>	a. Dimensions;
			<u>X</u>	b. Locations of proposed and existing water quality monitoring wells;
			<u>X</u>	c. Locations of soil borings;
			<u>X</u>	d. Proposed plan of trenching or disposal areas;
			<u>X</u>	e. Cross sections showing original elevations and proposed final contours which shall be included either on the plot plan or on separate sheets;
<u>X</u>	Sec. 3 Fig. 3-17			f. Any previously filled waste disposal areas;
<u>X</u>	Sec. 3 C-1 Fig. 3-17			g. Fencing or other measures to restrict access.
				4. Topographic maps with a scale not greater than 200 feet to the inch with 5-foot contour intervals showing; (62-701.330(3)(d), FAC):
			<u>X</u>	a. Proposed fill areas;
			<u>X</u>	b. Borrow areas;
			<u>X</u>	c. Access roads;
			<u>X</u>	d. Grades required for proper drainage;
			<u>X</u>	e. Cross sections of lifts;

S      LOCATION      N/A      N/C

PART F CONTINUED

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ X  
\_\_\_\_\_ X  
\_\_\_\_\_ X

- f. Special drainage devices if necessary;
- g. Fencing;
- h. Equipment facilities.

5. A report on the landfill describing the following;  
(62-701.330(3)(e), FAC)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ X  
\_\_\_\_\_ X  
\_\_\_\_\_ X  
\_\_\_\_\_ X

- a. The current and projected population and area to be served by the proposed site;
- b. The anticipated type, annual quantity, and source of solid waste, expressed in tons;
- c. The anticipated facility life;
- d. The source and type of cover material used for the landfill.

\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ X  
\_\_\_\_\_ X

6. Provide evidence that an approved laboratory shall conduct water quality monitoring for the facility in accordance with Chapter 62-160, FAC;  
(62-701.330(3)(h), FAC)
7. Provide a statement of how the applicant will demonstrate financial responsibility for the closing and long-term care of the landfill;  
(62-701.330(3)(i), FAC)

G. GENERAL CRITERIA FOR LANDFILLS (62-701.340, FAC)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_ X  
\_\_\_\_\_ X  
\_\_\_\_\_ X

1. Describe (and show on a Federal Insurance Administration flood map, if available) how the landfill or solid waste disposal unit shall not be located in the 100-year floodplain where it will restrict the flow of the 100-year flood, reduce the temporary water storage capacity of the floodplain unless compensating storage is provided, or result in a washout of solid waste; (62-701.340(4)(b), FAC)
2. Describe how the minimum horizontal separation between waste deposits in the landfill and the landfill property boundary shall be 100 feet, measured from the toe of the proposed final cover slope;  
(62-701.340(4)(c), FAC)
3. Describe what methods shall be taken to screen the landfill from public view where such screening can practically be provided; (62-701.340(4)(d), FAC)

H. LANDFILL CONSTRUCTION REQUIREMENTS (62-701.400, FAC)

S	LOCATION	N/A	N/C
---	----------	-----	-----

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

1. Describe how the landfill shall be designed so that solid waste disposal units will be constructed and closed at planned intervals throughout the design period of the landfill; (62-701.400(2), FAC)

2. Landfill liner requirements; (62-701.400(3), FAC)

a. General construction requirements; (62-701.400(3)(a), FAC):

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(1) Provide test information and documentation to ensure the liner will be constructed of materials that have appropriate physical, chemical, and mechanical properties to prevent failure;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(2) Document foundation is adequate to prevent liner failure;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(3) Constructed so bottom liner will not be adversely impacted by fluctuations of the ground water;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(4) Designed to resist hydrostatic uplift if bottom liner located below seasonal high ground water table;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(5) Installed to cover all surrounding earth which could come into contact with the waste or leachate.

b. Composite liners; (62-701.400(3)(b), FAC)

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

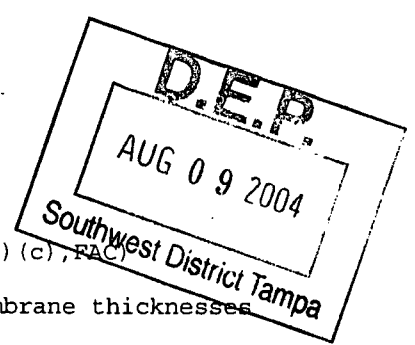
(1) Upper geomembrane thickness and properties;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(2) Design leachate head for primary LCRS including leachate recirculation if appropriate;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(3) Design thickness in accordance with Table A and number of lifts planned for lower soil component.



<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

# PART H CONTINUED

- c. Double liners; (62-701.400(3)(c), FAC)
- (1) Upper and lower geomembrane thicknesses and properties;
  - (2) Design leachate head for primary LCRS to limit the head to one foot above the liner;
  - (3) Lower geomembrane sub-base design;
  - (4) Leak detection and secondary leachate collection system minimum design criteria ( $k \geq 10$  cm/sec, head on lower liner  $\leq 1$  inch, head not to exceed thickness of drainage layer);
- d. Standards for geosynthetic components; (62-701.400(3)(d), FAC)
- (1) Field seam test methods to ensure all field seams are at least 90 percent of the yield strength for the lining material;
  - (2) Geomembranes to be used shall pass a continuous spark test by the manufacturer;
  - (3) Design of 24-inch-thick protective layer above upper geomembrane liner;
  - (4) Describe operational plans to protect the liner and leachate collection system when placing the first layer of waste above 24-inch-thick protective layer.
  - (5) HDPE geomembranes, if used, meet the specifications in GRI GM13;
  - (6) PVC geomembranes, if used, meet the specifications in PGI 1197;
  - (7) Interface shear strength testing results of the actual components which will be used in the liner system;
  - (8) Transmissivity testing results of geonets if they are used in the liner system;
  - (9) Hydraulic conductivity testing results of geosynthetic clay liners if they are used in the liner system;

S      LOCATION      N/A    N/C

PART H CONTINUED

e.      Geosynthetic specification requirements;  
(62-701.400(3)(e),FAC)

—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

- (1) Definition and qualifications of the designer, manufacturer, installer, QA consultant and laboratory, and QA program;
- (2) Material specifications for geomembranes, geocomposites, geotextiles, geogrids, and geonets;
- (3) Manufacturing and fabrication specifications including geomembrane raw material and roll QA, fabrication personnel qualifications, seaming equipment and procedures, overlaps, trial seams, destructive and nondestructive seam testing, seam testing location, frequency, procedure, sample size and geomembrane repairs;
- (4) Geomembrane installation specifications including earthwork, conformance testing, geomembrane placement, installation personnel qualifications, field seaming and testing, overlapping and repairs, materials in contact with geomembrane and procedures for lining system acceptance;
- (5) Geotextile and geogrid specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil materials and any overlying materials;
- (6) Geonet and geocomposite specifications including handling and placement, conformance testing, stacking and joining, repair, and placement of soil materials and any overlying materials;
- (7) Geosynthetic clay liner specifications including handling and placement, conformance testing, seams and overlaps, repair, and placement of soil material and any overlying materials;

f.      Standards for soil components  
(62-710.400(3)(f),FAC):

—	—	<u>X</u>	—
---	---	----------	---

- (1) Description of construction procedures including overexcavation and backfilling to preclude structural inconsistencies and procedures for placing and compacting soil component in layers;



<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

# PART H CONTINUED

- (2) Demonstration of compatibility of the soil component with actual or simulated leachate in accordance with EPA Test Method 9100 or an equivalent test method;
- (3) Procedures for testing in-situ soils to demonstrate they meet the specifications for soil liners;
- (4) Specifications for soil component of liner including at a minimum:
  - (a) Allowable particle size distribution, Atterberg limits, shrinkage limit;
  - (b) Placement moisture and dry density criteria;
  - (c) Maximum laboratory-determined saturated hydraulic conductivity using simulated leachate;
  - (d) Minimum thickness of soil liner;
  - (e) Lift thickness;
  - (f) Surface preparation (scarification);
  - (g) Type and percentage of clay mineral within the soil component;
- (5) Procedures for constructing and using a field test section to document the desired saturated hydraulic conductivity and thickness can be achieved in the field.

## 3. Leachate collection and removal system (LCRS); (62-701.400(4), FAC)

### a. The primary and secondary LCRS requirements; (62-701.400(4)(a), FAC)

—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

- (1) Constructed of materials chemically resistant to the waste and leachate;
- (2) Have sufficient mechanical properties to prevent collapse under pressure;
- (3) Have granular material or synthetic geotextile to prevent clogging;
- (4) Have method for testing and cleaning clogged pipes or contingent designs for rerouting leachate around failed areas;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
----------	-----------------	------------	------------

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
---	---	----------	---

—	—	<u>X</u>	—
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# PART H CONTINUED

b. Primary LCRS requirements;  
(62-701.400(4)(b), FAC)

- (1) Bottom 12 inches having hydraulic conductivity  $\geq 1 \times 10^{-3}$  cm/sec;
- (2) Total thickness of 24 inches of material chemically resistant to the waste and leachate;
- (3) Bottom slope design to accomodate for predicted settlement;
- (4) Demonstration that synthetic drainage material, if used, is equivalent or better than granular material in chemical compatibility, flow under load and protection of geomembrane liner.

4. Leachate recirculation; (62-701.400(5), FAC)

- a. Describe general procedures for recirculating leachate;
- b. Describe procedures for controlling leachate runoff and minimizing mixing of leachate runoff with storm water;
- c. Describe procedures for preventing perched water conditions and gas buildup;
- d. Describe alternate methods for leachate management when it cannot be recirculated due to weather or runoff conditions, surface seeps, wind-blown spray, or elevated levels of leachate head on the liner;
- e. Describe methods of gas management in accordance with Rule 62-701.530, FAC;
- f. If leachate irrigation is proposed, describe treatment methods and standards for leachate treatment prior to irrigation over final cover and provide documentation that irrigation does not contribute significantly to leachate generation.

S      LOCATION      N/A    N/C

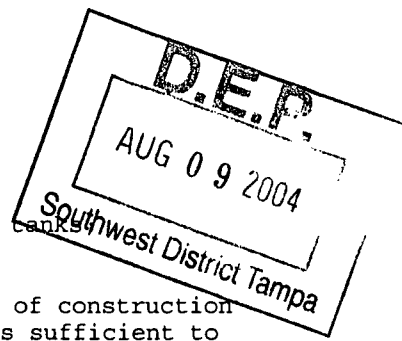
PART H CONTINUED

5. Leachate storage tanks and leachate surface impoundments; (62-701.400(6), FAC)

a. Surface impoundment requirements; (62-701.400(6)(b), FAC)

_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____
_____	_____	<u>X</u>	_____

- (1) Documentation that the design of the bottom liner will not be adversely impacted by fluctuations of the ground water;
- (2) Designed in segments to allow for inspection and repair as needed without interruption of service;
- (3) General design requirements;
  - (a) Double liner system consisting of an upper and lower 60-mil minimum thickness geomembrane;
  - (b) Leak detection and collection system with hydraulic conductivity  $\geq 1$  cm/sec;
  - (c) Lower geomembrane placed on subbase  $\geq 6$  inches thick with  $k \leq 1 \times 10^{-5}$  cm/sec or on an approved geosynthetic clay liner with  $k \leq 1 \times 10^{-7}$  cm/sec;
  - (d) Design calculation to predict potential leakage through the upper liner;
  - (e) Daily inspection requirements and notification and corrective action requirements if leakage rates exceed that predicted by design calculations;
- (4) Description of procedures to prevent uplift, if applicable;
- (5) Design calculations to demonstrate minimum two feet of freeboard will be maintained;
- (6) Procedures for controlling disease vectors and off-site odors.



<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—
—	—	<u>X</u>	—

PART H CONTINUED

- b. Above-ground leachate storage tanks;  
(62-701.400(6)(c), FAC)
- (1) Describe tank materials of construction and ensure foundation is sufficient to support tank;
  - (2) Describe procedures for cathodic protection if needed for the tank;
  - (3) Describe exterior painting and interior lining of the tank to protect it from the weather and the leachate stored;
  - (4) Describe secondary containment design to ensure adequate capacity will be provided and compatibility of materials of construction;
  - (5) Describe design to remove and dispose of stormwater from the secondary containment system;
  - (6) Describe an overflow prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overflowing;
  - (7) Inspections, corrective action and reporting requirements;
    - (a) Overflow prevention system weekly;
    - (b) Exposed tank exteriors weekly;
    - (c) Tank interiors when tank is drained or at least every three years;
    - (d) Procedures for immediate corrective action if failures detected;
    - (e) Inspection reports available for department review.
- c. Underground leachate storage tanks;  
(62-701.400(6)(d), FAC)
- (1) Describe materials of construction;
  - (2) A double-walled tank design system to be used with the following requirements;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART H CONTINUED

_____	_____	<u>X</u>	_____
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(a) Interstitial space monitoring at least weekly;

_____	_____	<u>X</u>	_____
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(b) Corrosion protection provided for primary tank interior and external surface of outer shell;

_____	_____	<u>X</u>	_____
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(c) Interior tank coatings compatible with stored leachate;

_____	_____	<u>X</u>	_____
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(d) Cathodic protection inspected weekly and repaired as needed;

_____	_____	<u>X</u>	_____
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(3) Describe an overfill prevention system such as level sensors, gauges, alarms and shutoff controls to prevent overfilling and provide for weekly inspections;

_____	_____	<u>X</u>	_____
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(4) Inspection reports available for department review.

_____	_____	<u>X</u>	_____
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d. Schedule provided for routine maintenance of LCRS; (62-701.400(6)(e), FAC)

6. Liner systems construction quality assurance (CQA); (62-701.400(7), FAC)

_____	_____	<u>X</u>	_____
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a. Provide CQA Plan including:

_____	_____	<u>X</u>	_____
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(1) Specifications and construction requirements for liner system;

_____	_____	<u>X</u>	_____
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(2) Detailed description of quality control testing procedures and frequencies;

_____	_____	<u>X</u>	_____
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(3) Identification of supervising professional engineer;

_____	_____	<u>X</u>	_____
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(4) Identify responsibility and authority of all appropriate organizations and key personnel involved in the construction project;

_____	_____	<u>X</u>	_____
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(5) State qualifications of CQA professional engineer and support personnel;

_____	_____	<u>X</u>	_____
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(6) Description of CQA reporting forms and documents;

S      LOCATION      N/A    N/C

PART H CONTINUED

\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_

- b. An independent laboratory experienced in the testing of geosynthetics to perform required testing;

7. Soil Liner CQA (62-701.400(8)FAC)

\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_

- a. Documentation that an adequate borrow source has been located with test results or description of the field exploration and laboratory testing program to define a suitable borrow source;

\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_

- b. Description of field test section construction and test methods to be implemented prior to liner installation;

\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_

- c. Description of field test methods including rejection criteria and corrective measures to insure proper liner installation.

8. Surface water management systems; (62-701.400(9),FAC)

X      Sec. 6      \_\_\_\_      \_\_\_\_

- a. Provide a copy of a Department permit for stormwater control or documentation that no such permit is required;

X      Sec. 6      \_\_\_\_      \_\_\_\_

- b. Design of surface water management system to isolate surface water from waste filled areas and to control stormwater run-off;

X      Sec. 6      \_\_\_\_      \_\_\_\_

- c. Details of stormwater control design including retention ponds, detention ponds, and drainage ways;

9. Gas control systems; (62-701.400(10),FAC)

\_\_\_\_      \_\_\_\_\_      \_\_\_\_      X

- a. Provide documentation that if the landfill is receiving degradable wastes, it will have a gas control system complying with the requirements of Rule 62-701.530, FAC;

\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_

10. For landfills designed in ground water, provide documentation that the landfill will provide a degree of protection equivalent to landfills designed with bottom liners not in contact with ground water; (62-701.400(11),FAC)

I. HYDROGEOLOGICAL INVESTIGATION REQUIREMENTS (62-701.410(1), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
			<u>X</u>	1. Submit a hydrogeological investigation and site report including at least the following information:
			<u>X</u>	a. Regional and site specific geology and hydrogeology;
			<u>X</u>	b. Direction and rate of ground water and surface water flow including seasonal variations;
			<u>X</u>	c. Background quality of ground water and surface water;
			<u>X</u>	d. Any on-site hydraulic connections between aquifers;
			<u>X</u>	e. Site stratigraphy and aquifer characteristics for confining layers, semi-confining layers, and all aquifers below the landfill site that may be affected by the landfill;
	Sec. 5		<u>X</u>	f. Description of topography, soil types and surface water drainage systems;
<u>X</u>	<u>Fig. 15</u>			g. Inventory of all public and private water wells within a one-mile radius of the landfill including, where available, well top of casing and bottom elevations, name of owner, age and usage of each well, stratigraphic unit screened, well construction technique and static water level;
	Sec. 5		<u>X</u>	h. Identify and locate any existing contaminated areas on the site;
<u>X</u>	<u>Fig. 15</u>			i. Include a map showing the locations of all potable wells within 500 feet, and all community water supply wells within 1000 feet, of the waste storage and disposal areas;
			<u>X</u>	2. Report signed, sealed and dated by PE or PG.

J. GEOTECHNICAL INVESTIGATION REQUIREMENTS (62-701.410(2), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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1. Submit a geotechnical site investigation report defining the engineering properties of the site including at least the following:

_____	_____	_____	<u>X</u>
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a. Description of subsurface conditions including soil stratigraphy and ground water table conditions;

_____	_____	_____	<u>X</u>
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b. Investigate for the presence of muck, previously filled areas, soft ground, lineaments and sink holes;

_____	_____	_____	<u>X</u>
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c. Estimates of average and maximum high water table across the site;

d. Foundation analysis including:

_____	_____	_____	<u>X</u>
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(1) Foundation bearing capacity analysis;

_____	_____	_____	<u>X</u>
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(2) Total and differential subgrade settlement analysis;

_____	_____	_____	<u>X</u>
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(3) Slope stability analysis;

_____	_____	_____	<u>X</u>
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e. Description of methods used in the investigation and includes soil boring logs, laboratory results, analytical calculations, cross sections, interpretations and conclusions;

_____	_____	_____	<u>X</u>
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f. An evaluation of fault areas, seismic impact zones, and unstable areas as described in 40 CFR 258.13, 40 CFR 258.14 and 40 CFR 258.15.

_____	_____	_____	<u>X</u>
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2. Report signed, sealed and dated by PE or PG.



K. VERTICAL EXPANSION OF LANDFILLS (62-701.430, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	<u>X</u>	—	1. Describe how the vertical expansion shall not cause or contribute to leachate leakage from the existing landfill or adversely affect the closure design of the existing landfill;
—	—	<u>X</u>	—	2. Describe how the vertical expansion over unlined landfills will meet the requirements of Rule 62-701.400, FAC with the exceptions of Rule 62-701.430(1)(c), FAC;
—	—	<u>X</u>	—	3. Provide foundation and settlement analysis for the vertical expansion;
—	—	<u>X</u>	—	4. Provide total settlement calculations demonstrating that the final elevations of the lining system, that gravity drainage, and that no other component of the design will be adversely affected;
—	—	<u>X</u>	—	5. Minimum stability safety factor of 1.5 for the lining system component interface stability and deep stability;
—	—	<u>X</u>	—	6. Provide documentation to show the surface water management system will not be adversely affected by the vertical expansion;
—	—	<u>X</u>	—	7. Provide gas control designs to prevent accumulation of gas under the new liner for the vertical expansion.

L. LANDFILL OPERATION REQUIREMENTS (62-701.500,FAC)

X	App: 35A Sec: 15.1			1.	Provide documentation that landfill will have at least one trained operator during operation and at least one trained spotter at each working face; (62-701.500(1),FAC)
				2.	Provide a landfill operation plan including procedures for: (62-701.500(2), FAC)
			X	a.	Designating responsible operating and maintenance personnel;
			X	b.	Contingency operations for emergencies;
			X	c.	Controlling types of waste received at the landfill;
			X	d.	Weighing incoming waste;
			X	e.	Vehicle traffic control and unloading;
X	Sec. 3.8			f.	Method and sequence of filling waste;
			X	g.	Waste compaction and application of cover;
			X	h.	Operations of gas, leachate, and stormwater controls;
			X	i.	Water quality monitoring.
		X		j.	Maintaining and cleaning the leachate collection system;
			X	3.	Provide a description of the landfill operation record to be used at the landfill; details as to location of where various operational records will be kept (i.e. FDEP permit, engineering drawings, water quality records, etc.) (62-701.500(3),FAC)
			X	4.	Describe the waste records that will be compiled monthly and provided to the Department quarterly; (62-701.500(4),FAC)
			X	5.	Describe methods of access control; (62-701.500(5),FAC)
			X	6.	Describe load checking program to be implemented at the landfill to discourage disposal of unauthorized wastes at the landfill; (62-701.500(6),FAC)
				7.	Describe procedures for spreading and compacting waste at the landfill that include: (62-701.500(7),FAC)
			X	a.	Waste layer thickness and compaction frequencies;



S      LOCATION      N/A    N/C

PART L CONTINUED

\_\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_\_

f. Procedures for recording quantities of leachate generated in gal/day and including this in the operating record;

\_\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_\_

g. Procedures for comparing precipitation experienced at the landfill with leachate generation rates and including this information in the operating record;

\_\_\_\_\_      \_\_\_\_\_      X      \_\_\_\_\_

h. Procedures for water pressure cleaning or video inspecting leachate collection systems.

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

9. Describe how the landfill receiving degradable wastes shall implement a gas management system meeting the requirements of Rule 62-701.530, FAC; (62-701.500(9), FAC)

X      Sec. 3.1 0.3      \_\_\_\_\_      \_\_\_\_\_

10. Describe procedures for operating and maintaining the landfill stormwater management system to comply with the requirements of Rule 62-701.400(9); (62-701.500(10), FAC)

11. Equipment and operation feature requirements; (62-701.500(11), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

a. Sufficient equipment for excavating, spreading, compacting and covering waste;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

b. Reserve equipment or arrangements to obtain additional equipment within 24 hours of breakdown;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

c. Communications equipment;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

d. Dust control methods;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

e. Fire protection capabilities and procedures for notifying local fire department authorities in emergencies;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

f. Litter control devices;

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

g. Signs indicating operating authority, traffic flow, hours of operation, disposal restrictions.

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

12. Provide a description of all-weather access road, inside perimeter road and other roads necessary for access which shall be provided at the landfill; (62-701.500(12), FAC)

\_\_\_\_\_      \_\_\_\_\_      \_\_\_\_\_      X

13. Additional record keeping and reporting requirements; (62-701.500(13), FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

PART L CONTINUED

- a. Records used for developing permit applications and supplemental information maintained for the design period of the landfill;
- b. Monitoring information, calibration and maintenance records, copies of reports required by permit maintained for at least 10 years;
- c. Maintain annual estimates of the remaining life of constructed landfills and of other permitted areas not yet constructed and submit this estimate annually to the Department;
- d. Procedures for archiving and retrieving records which are more than five year old.

M. WATER QUALITY AND LEACHATE MONITORING REQUIREMENTS (62-701.510, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	—	<u>X</u>	1. Water quality and leachate monitoring plan shall be submitted describing the proposed ground water, surface water and leachate monitoring systems and shall meet at least the following requirements;
—	—	—	<u>X</u>	a. Based on the information obtained in the hydrogeological investigation and signed, dated and sealed by the PG or PE who prepared it; (62-701.510(2)(a), FAC)
—	—	—	<u>X</u>	b. All sampling and analysis performed in accordance with Chapter 62-160, FAC; (62-701.510(2)(b), FAC)
				c. Ground water monitoring requirements; (62-701.510(3), FAC)
<u>X</u>	<u>Sec. 5.3</u>	—	—	(1) Detection wells located downgradient from and within 50 feet of disposal units;
<u>X</u>	<u>Sec. 5.3</u>	—	—	(2) Downgradient compliance wells as required;
—	—	—	<u>X</u>	(3) Background wells screened in all aquifers below the landfill that may be affected by the landfill;
<u>X</u>	<u>Sec. 5.3</u>	—	—	(4) Location information for each monitoring well;
<u>X</u>	<u>Sec. 5.3</u>	—	—	(5) Well spacing no greater than 500 feet apart for downgradient wells and no greater than 1500 feet apart for upgradient wells unless site specific conditions justify alternate well spacings;
<u>X</u>	<u>Sec. 5.3</u>	—	—	(6) Well screen locations properly selected;
—	—	—	<u>X</u>	(7) Procedures for properly abandoning monitoring wells;
—	—	<u>X</u>	—	(8) Detailed description of detection sensors if proposed.

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	<u>X</u>	—
—	—	—	<u>X</u>
—	—	<u>X</u>	—
—	—	—	<u>X</u>
—	—	<u>X</u>	—
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>

**PART M CONTINUED**

- d. Surface water monitoring requirements; (62-701.510(4), FAC)
- (1) Location of and justification for all proposed surface water monitoring points;
  - (2) Each monitoring location to be marked and its position determined by a registered Florida land surveyor;
- e. Leachate sampling locations proposed; (62-701.510(5), FAC)
- f. Initial and routine sampling frequency and requirements; (62-701.510(6), FAC)
- (1) Initial background ground water and surface water sampling and analysis requirements;
  - (2) Routine leachate sampling and analysis requirements;
  - (3) Routine monitoring well sampling and analysis requirements;
  - (4) Routine surface water sampling and analysis requirements.
- g. Describe procedures for implementing evaluation monitoring, prevention measures and corrective action as required; (62-701.510(7), FAC)
- h. Water quality monitoring report requirements; (62-701.510(9), FAC)
- (1) Semi-annual report requirements;
  - (2) Bi-annual report requirements signed, dated and sealed by PG or PE.

N. SPECIAL WASTE HANDLING REQUIREMENTS (62-701.520, FAC)

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
—	—	—	<u>X</u>	1. Describe procedures for managing motor vehicles; (62-701.520(1), FAC)
—	—	<u>X</u>	—	2. Describe procedures for landfilling shredded waste; (62-701.520(2), FAC)
—	—	—	<u>X</u>	3. Describe procedures for asbestos waste disposal; (62-701.520(3), FAC)
—	—	<u>X</u>	—	4. Describe procedures for disposal or management of contaminated soil; (62-701.520(4), FAC)
—	—	<u>X</u>	—	5. Describe procedures for disposal of biological wastes; (62-701.520(5), FAC)

O. GAS MANAGEMENT SYSTEM REQUIREMENTS (62-701.530, FAC)

				1. Provide the design for a gas management systems that will (62-701.530(1), FAC):
—	—	—	<u>X</u>	a. Be designed to prevent concentrations of combustible gases from exceeding 25% the LEL in structures and 100% the LEL at the property boundary;
—	—	—	<u>X</u>	b. Be designed for site-specific conditions;
—	—	—	<u>X</u>	c. Be designed to reduce gas pressure in the interior of the landfill;
—	—	—	<u>X</u>	d. Be designed to not interfere with the liner, leachate control system or final cover.
—	—	—	<u>X</u>	2. Provide documentation that will describe locations, construction details and procedures for monitoring gas at ambient monitoring points and with soil monitoring probes; (62-701.530(2), FAC):
—	—	—	<u>X</u>	3. Provide documentation describing how the gas remediation plan and odor remediation plan will be implemented; (62-701.530(3), FAC):
				4. Landfill gas recovery facilities; (62-701.530(5), FAC):
—	—	<u>X</u>	—	a. Information required in Rules 62-701.320(7) and 62-701.330(3), FAC supplied;
—	—	<u>X</u>	—	b. Information required in Rule 62-701.600(4), FAC supplied where relevant and practical;
—	—	<u>X</u>	—	c. Estimate of current and expected gas generation rates and description of condensate disposal methods provided;
<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	<b>PART O CONTINUED</b>
—	—	<u>X</u>	—	d. Description of procedures for condensate sampling, analyzing and data reporting provided;



\_\_\_\_\_ X \_\_\_\_\_

- e. Closure plan provided describing methods to control gas after recovery facility ceases operation and any other requirements contained in Rule 62-701.400(10), FAC;

\_\_\_\_\_ X \_\_\_\_\_

- f. Performance bond provided to cover closure costs if not already included in other landfill closure costs.

P. LANDFILL FINAL CLOSURE REQUIREMENTS (62-701.600, FAC)

1. Closure schedule requirements; (62-701.600(2), FAC)

\_\_\_\_\_ X \_\_\_\_\_

- a. Documentation that a written notice including a schedule for closure will be provided to the Department at least one year prior to final receipt of wastes;

\_\_\_\_\_ X \_\_\_\_\_

- b. Notice to user requirements within 120 days of final receipt of wastes;

\_\_\_\_\_ X \_\_\_\_\_

- c. Notice to public requirements within 10 days of final receipt of wastes.

2. Closure permit general requirements; (62-701.600(3), FAC)

\_\_\_\_\_ X \_\_\_\_\_

- a. Application submitted to Department at least 90 days prior to final receipt of wastes;

- b. Closure plan shall include the following:

\_\_\_\_\_ X \_\_\_\_\_

- (1) Closure report;

\_\_\_\_\_ X \_\_\_\_\_

- (2) Closure design plan;

\_\_\_\_\_ X \_\_\_\_\_

- (3) Closure operation plan;

\_\_\_\_\_ X \_\_\_\_\_

- (4) Closure procedures;

\_\_\_\_\_ X \_\_\_\_\_

- (5) Plan for long term care;

\_\_\_\_\_ X \_\_\_\_\_

- (6) A demonstration that proof of financial responsibility for long term care will be provided.

3. Closure report requirements; (62-701.600(4), FAC)

- a. General information requirements;

\_\_\_\_\_ X \_\_\_\_\_

- (1) Identification of landfill;

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
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PART P CONTINUED

_____	_____	<u>X</u>	_____
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(2) Location, description and vicinity map;

_____	_____	<u>X</u>	_____
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(3) Total acres of disposal areas and landfill property;

_____	_____	<u>X</u>	_____
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(4) Legal property description;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(5) History of landfill;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

(6) Identification of types of waste disposed of at the landfill.

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

b. Geotechnical investigation report and water quality monitoring plan required by Rule 62-701.330(3), FAC;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

c. Land use information report indicating: identification of adjacent landowners; zoning; present land uses; and roads, highways right-of-way, or easements.

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

d. Report on actual or potential gas migration at landfills containing degradable wastes which would allow migration of gas off the landfill property;

_____	_____	<u>X</u>	_____
-------	-------	----------	-------

e. Report assessing the effectiveness of the landfill design and operation including results of geotechnical investigations, surface water and storm water management, gas migration and concentrations, condition of existing cover, and nature of waste disposed of at the landfill;

4. Closure design requirements to be included in the closure design plan: (62-701.600(5), FAC)

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

a. Plan sheet showing phases of site closing;

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

b. Drawings showing existing topography and proposed final grades;

<u>X</u>	Sec. 3.8	_____	<u>X</u>
----------	----------	-------	----------

c. Provisions to close units when they reach approved design dimensions;

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

d. Final elevations before settlement;

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

e. Side slope design including benches, terraces, down slope drainage ways, energy dissipators and discussion of expected precipitation effects;

_____	_____	_____	_____
-------	-------	-------	-------

f. Final cover installation plans including:

_____	_____	_____	<u>X</u>
-------	-------	-------	----------

(1) CQA plan for installing and testing final cover;

S	LOCATION	N/A	N/C
---	----------	-----	-----

PART P CONTINUED

_____	_____	_____	X
-------	-------	-------	---

(2) Schedule for installing final cover after final receipt of waste;

_____	_____	_____	X
-------	-------	-------	---

(3) Description of drought-resistant species to be used in the vegetative cover;

_____	_____	_____	X
-------	-------	-------	---

(4) Top gradient design to maximize runoff and minimize erosion;

_____	_____	_____	X
-------	-------	-------	---

(5) Provisions for cover material to be used for final cover maintenance.

g. Final cover design requirements:

_____	_____	_____	X
-------	-------	-------	---

(1) Protective soil layer design;

_____	_____	_____	X
-------	-------	-------	---

(2) Barrier soil layer design;

_____	_____	_____	X
-------	-------	-------	---

(3) Erosion control vegetation;

_____	_____	X	_____
-------	-------	---	-------

(4) Geomembrane barrier layer design;

_____	_____	X	_____
-------	-------	---	-------

(5) Geosynthetic clay liner design if used;

_____	_____	X	_____
-------	-------	---	-------

(6) Stability analysis of the cover system and the disposed waste.

_____	_____	_____	X
-------	-------	-------	---

h. Proposed method of stormwater control;

_____	_____	_____	X
-------	-------	-------	---

i. Proposed method of access control;

_____	_____	_____	X
-------	-------	-------	---

j. Description of proposed final use of the closed landfill, if any;

_____	_____	_____	K
-------	-------	-------	---

k. Description of the proposed or existing gas management system which complies with Rule 62-701.530, FAC.

5. Closure operation plan shall include:  
(62-701.600(6), FAC)

_____	_____	_____	X
-------	-------	-------	---

a. Detailed description of actions which will be taken to close the landfill;

_____	_____	_____	X
-------	-------	-------	---

b. Time schedule for completion of closing and long term care;

_____	_____	_____	_____
-------	-------	-------	-------

c. Describe proposed method for demonstrating financial responsibility;

_____	_____	_____	X
-------	-------	-------	---

d. Indicate any additional equipment and personnel needed to complete closure.

_____	_____	X	_____
-------	-------	---	-------

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>
—	—	—	<u>X</u>
—	—	—	<u>X</u>
—	—	<u>X</u>	—

PART P CONTINUED

- e. Development and implementation of the water quality monitoring plan required in Rule 62-701.510, FAC.
- f. Development and implementation of gas management system required in Rule 62-701.530, FAC.
- 6. Justification for and detailed description of procedures to be followed for temporary closure of the landfill, if desired; (62-701.600(7),FAC)

**Q. CLOSURE PROCEDURES (62-701.610, FAC)**

<u>S</u>	<u>LOCATION</u>	<u>N/A</u>	<u>N/C</u>	
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	1. Survey monuments; (62-701.610(2), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	2. Final survey report; (62-701.610(3), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	3. Certification of closure construction completion; (62-701.610(4), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	4. Declaration to the public; (62-701.610(5), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	5. Official date of closing; (62-701.610(6), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	6. Use of closed landfill areas; (62-701.610(7), FAC)
<u>      </u>	<u>                    </u>	<u>  X  </u>	<u>      </u>	7. Relocation of wastes; (62-701.610(8), FAC)

**R. LONG TERM CARE REQUIREMENTS (62-701.620, FAC)**

<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	1. Maintaining the gas collection and monitoring system; (62-701.620(5), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	2. Right of property access requirements; (62-701.620(6), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	3. Successors of interest requirements; (62-701.620(7), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	4. Requirements for replacement of monitoring devices; (62-701.620(9), FAC)
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	5. Completion of long term care signed and sealed by professional engineer (62-701.620(10), FAC).

**S. FINANCIAL RESPONSIBILITY REQUIREMENTS (62-701.630, FAC)**

<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	1. Provide cost estimates for closing, long term care, and corrective action costs estimated by a PE for a third party performing the work, on a per unit basis, with the source of estimates indicated; (62-701.630(3)&(7), FAC).
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	2. Describe procedures for providing annual cost adjustments to the Department based on inflation and changes in the closing, long-term care, and corrective action plans; (62-701.630(4)&(8), FAC).
<u>      </u>	<u>                    </u>	<u>      </u>	<u>  X  </u>	3. Describe funding mechanisms for providing proof of financial assurance and include appropriate financial assurance forms; (62-701.630(5), (6), &(9), FAC).

T. CERTIFICATION BY APPLICANT AND ENGINEER OR PUBLIC OFFICER

1. Applicant:

The undersigned applicant or authorized representative of Angelo's Aggregate Materials, Ltd. is aware that statements made in this form and attached

information are an application for a Class II Landfill Permit from the Florida Department of Environmental Protection and certifies that the information in this application is true, correct and complete to the best of his/her knowledge and belief. Further, the undersigned agrees to comply with the provisions of Chapter 403, Florida Statutes, and all rules and regulations of the Department. It is understood that the Permit is not transferable, and the Department will be notified prior to the sale or legal transfer of the permitted facility.

Cy. Abo  
Signature of Applicant or Agent  
Craig Bryan,  
Operations Manager  
Name and Title (please type)

E-Mail address (if available)

1755 20th Avenue S.E.  
Mailing Address

Largo, FL 33771  
City, State, Zip Code

(727) 581-1544  
Telephone Number

Date: 8/4/04

Attach letter of authorization if agent is not a governmental official, owner, or corporate officer.

2. Professional Engineer registered in Florida (or Public Officer if authorized under Sections 403.707 and 403.7075, Florida Statutes):

This is to certify that the engineering features of this solid waste management facility have been designed/examined by me and found to conform to engineering principles applicable to such facilities. In my professional judgment, this facility, when properly maintained and operated, will comply with all applicable statutes of the State of Florida and rules of the Department. It is agreed that the undersigned will provide the applicant with a set of instructions of proper maintenance and operation of the facility.

[Signature]  
Signature  
L. Deal, P.E.  
Name and Title (please type)

58592  
Florida Registration Number  
(please affix seal)

201 E. Pine St., Ste. 1000  
Mailing Address

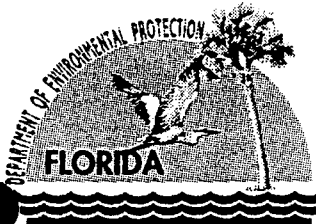
Orlando, FL 32801  
City, State, Zip Code

jld@consulthai.com  
E-Mail address (if available)

(407) 839-3955  
Telephone Number

Date: \_\_\_\_\_

STORMWATER PERMIT



Jeb Bush  
Governor

# Department of Environmental Protection

Southwest District  
3804 Coconut Palm Drive  
Tampa, Florida 33619

Colleen M. Castille  
Secretary

JUL 15 2004

JUL 29 2004

Roberto C. Cintron, E.I.  
Hartman & Associates, Inc.  
201 East Pine Street, Suite 1000  
Orlando, FL 32801-2723

Re: Permit Modification  
Enterprise Recycling Facility  
DEP #51-0172489-006  
Pasco County

Dear Mr. Cintron:

Your request to modify FDEP Permit #51-0172489-006 was received on June 10, 2004, and reviewed by Department staff. The modification is for the following:

1. Modification of Pond#2 by shifting the location 35 feet to the east. The pond will continue to hold the 4.9 acre-feet of water that was previously permitted.
2. Modification of the temporary pond. Currently, the temporary pond consists of Cells 15 and 16. Modification is for the temporary pond to consist of Cells 14 and 16. The temporary pond will continue to hold the permitted volume of 30.46 acre-feet. All changes to the temporary pond must be completed prior to commencing work on Cell 15 to ensure that storage is available throughout the construction phase.

The project is located in Section(s) 5 and 8, Township 25S, Range 22E, in Pasco County, Florida.

The General/Limiting Conditions and Specific Conditions in the original permit shall also apply to the work authorized by this modification.

For the purposes of tracking the application fee (if applicable) a new tracking number, 51-0172489-006, was assigned to this modification request. Please continue to refer to the original permit number when referring to this project in the future.

Since the proposed modification is not expected to result in any adverse environmental impact or water quality degradation, the permit is hereby modified as requested. By copy of this letter and the attached drawings, we are notifying all necessary parties of the modification.

This letter of approval does not alter the remaining Specific Conditions or General Conditions, or monitoring requirements of the permit. This letter and accompanying drawings must be attached to the original permit.

"More Protection, Less Process"

Printed on recycled paper.



Please be advised that this letter modification does not constitute the application for or issuance of a NPDES Stormwater Permit or NPDES Stormwater Pollution Prevention Plan. For additional information regarding this matter please contact Department personnel in Tallahassee at (850) 245-7522.

#### RIGHTS OF AFFECTED PARTIES

This permit is hereby granted unless a sufficient petition for an administrative hearing is timely filed under sections 120.569 and 120.57 of the Florida Statutes as provided below. The procedures for petitioning for a hearing are set forth below.

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under sections 120.569 and 120.57 of the Florida Statutes. The petition must contain the information set forth below and must be filed (received by the clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Mediation may also be pursued as specified below.

Because the administrative hearing process is designed to redetermine final agency action on the application, the filing of a petition for an administrative hearing may result in a modification of the permit or even a denial of the application. If a sufficient petition for an administrative hearing or request for an extension of time to file a petition is timely filed, this permit automatically becomes only proposed agency action on the application, subject to the result of the administrative review process. Mediation may also change the final disposition of the application. Accordingly, the applicant is advised not to commence construction or other activities under this permit until the deadlines noted below for filing a petition for an administrative hearing or request for an extension of time have expired.

Under rule 62-110.106(4) of the Florida Administrative Code, a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon. If a request is filed late, the Department may still grant it upon a motion by the requesting party showing that the failure to file a request for an extension of time before the deadline was the result of excusable neglect.

In the event that a timely and sufficient petition for an administrative hearing is filed, other persons whose substantial interests will be affected by the outcome of the administrative process have the right to petition to intervene in the proceeding. Intervention will be only at the discretion of the presiding officer upon the filing of a motion in compliance with rule 28-106.205 of the Florida Administrative Code.

In accordance with rules 28-106.111(2) and 62-110.106(3)(a)(4), petitions for an administrative hearing by the applicant must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under section 120.60(3) of the Florida Statutes, must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first.

Under section 120.60(3) of the Florida Statutes, however, any person who has asked the Department for notice of agency action may file a petition within 21 days of receipt of such notice, regardless of the date of publication.

The petitioner shall mail a copy of the petition to the applicant at the address indicated above at the time of filing. The failure of any person to file a petition for an administrative hearing or pursue mediation as provided below within the appropriate time period shall constitute a waiver of those rights.

A petition that disputes the material facts on which the Department's action is based must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, and telephone number of the petitioner; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action; and
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action;
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

A petition that does not dispute the material facts on which the Department's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by rule 28-106.301. Under sections 120.569(2)(c) and (d) of the Florida Statutes, a petition for administrative hearing must be dismissed by the agency if the petition does not substantially comply with the above requirements or is untimely filed.

In addition to petitioning for an administrative hearing, any person who has previously filed a petition for an administrative hearing may pursue mediation. If a written mediation agreement with all parties to the proceeding (i.e., the applicant, the Department, and any person who has filed a timely and sufficient petition for a hearing) is filed with the Department within 10 days after the deadline for filing a petition for an administrative hearing, the time limitations imposed by sections 120.569 and 120.57 shall be tolled to allow mediation to proceed. The agreement must contain all the information required by rule 28-106.404. The agreement must be received by the clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the deadline noted above. Pursuing mediation will not adversely affect the right to a hearing if mediation does not result in a settlement.

Unless otherwise agreed by the parties, the mediation must be concluded within sixty days of the execution of the agreement. If mediation results in settlement of the administrative dispute, the Department must enter a final order incorporating the agreement of the parties. As noted above, persons seeking to protect their substantial interests that would be affected by such a final decision modified through mediation must file their petitions within 21 days of receipt or publication of this notice as provided above, or they shall be deemed to have waived their right to a proceeding under sections 120.569 and 120.57. If mediation terminates without settlement of the dispute, the Department shall notify all parties in writing that the administrative hearing processes under sections 120.569 and 120.57 remain available for disposition of the dispute, and the notice will specify the deadlines that then will apply for challenging the agency action and electing remedies under those two statutes.

This action is final and effective on the date filed with the Clerk of the Department unless a petition is filed in accordance with the above. Upon the timely filing of a petition this order will not be effective until further order of the Department.

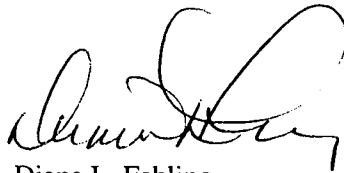
This permit constitutes an order of the Department. The applicant has the right to seek judicial review of the order under section 120.68 of the Florida Statutes, by the filing of a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000;

and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within 30 days from the date when the final order is filed with the Clerk of the Department.

Executed in Tampa, Florida.

Thank you for your cooperation with the permitting process and your interest in protecting the natural resources of the state of Florida. If you have any questions about this letter please contact me at (813) 744-6100, extension 325 or Mr. David Smith, P.E. at extension 393.

Sincerely,

A handwritten signature in black ink, appearing to read 'Diana L. Fehling', written over a horizontal line.

Diana L. Fehling  
Permitting Engineer III  
Industrial Wastewater Program

cc: Enterprise Recycling Facility  
FDEP permit file

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this permit, including all copies were mailed before the close of business on 7/9/04, 2004, to the above listed persons.

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to 120.52(9), Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

ERobinson 7/9/04  
Clerk Date

REVISED ENGINEERING REPORT

***SECTION 3***

***ENGINEERING REPORT***

***ENTERPRISE RECYCLING & DISPOSAL FACILITY  
41111 ENTERPRISE ROAD  
DADE CITY, FLORIDA 33525***

***PREPARED FOR:***

***ANGELO'S AGGREGATE MATERIALS, LTD.***

***PREPARED BY:***

***HARTMAN & ASSOCIATES, INC.  
A TETRA TECH COMPANY  
201 E. Pine Street, Suite 1000  
Orlando, Florida 32801***

***AUGUST 2004***

***HAI# 99.0331.016***

Hartman & Associates, Inc.  
201 E. Pine St., Suite 1000  
Orlando, FL 32801  
Engineering Business #5814  
Jennifer L. Deal, P.E.

  
Florida Registration

000058592

8/5/04

## SECTION 3 ENGINEERING REPORT



### 3.1 GENERAL

The purpose of this Engineering Report is to describe the subject site and Class III landfill design to meet the requirements of FAC 62-701 and Pasco County's Land Development Code (LDC). Appendices to this report include: 3-A Operations Plan and 3-B Contingency Plan.

### 3.2 SITE LOCATION AND DESCRIPTION

The facility receives approximately 1,500 tons of Class III waste per day from Pasco County and other surrounding Counties (Hernando, Hillsborough and Polk). Based on the 1999 Florida Statistical Abstract, the estimated populations for these counties total 1,854,262, 1,929,360 people in 2004. Assuming an annual growth rate of 1%, the five-year projection population would be 1,948,848, 2,027,776.

The subject site is located in Section 5 and 8, Township 25 South, Range 22 East, in Pasco County, Florida, as shown on the United States Geological Survey (USGS) quadrangle map presented in Figure 3-1. More specifically, it is located at the intersection of Enterprise Road and Auton Road southeast of Dade City, Florida. The site is currently used for orange groves and developed pastureland and occupies approximately 160 acres of land on the northside of Enterprise Road. The square property is approximately 2,640 feet on a side and is located in the southwest quarter of Section 5 and the northwest quarter of Section 8.

There are no airports within 5 miles of the site, see Figure 3-1.

#### 3.2.1 Prohibition Compliance

In order to comply with Rule 62-701.300, FAC, the Facility will abide by the following:

- The Facility will not dispose of solid waste at the proposed site until proper permitting is obtained.

- As shown in the site location map Figure 3-1, and the Geotechnical Report, Section 4, disposal of solid waste will not occur in areas that are: unable to provide support for the waste; geological formation or subsurface features would allow unimpeded discharge to surface water on groundwater; are within 500 feet of an existing potable water well; are within a dewatered pit; are in a frequently flooded area; are in a body of water; are within 200 feet of a surface water body that discharges offsite; are on a right of way; are within 1000 feet of an existing community potable water well; or are within 3000 ft. of Class 1 surface waters.
- Open burning will not occur on the site unless the burning takes place in a permitted air curtain incinerator.
- Hazardous wastes, PCB's, biohazardous wastes, special wastes, liquids, and oily wastes will not be disposed of at the Facility. Random load checks and the use of spotters at the working face will ensure that these wastes are not placed for disposal at the Facility.

### 3.3 SURROUNDING LAND USES AND ZONING

Figure 3-2 presents a recent aerial photograph map depicting the surrounding land uses and designated Pasco County zoning in the site vicinity. Agricultural land uses surround the site and a few scattered residences surround the site. All adjoining properties are zoned A-2. To the north is the closed East Pasco County Class I Sanitary Landfill and a residence. To the east is an old borrow pit and agricultural land. South of the site is agricultural land and orange groves, and to the west are orange groves which are also owned by Sid Larkin & Son, Inc.

Current site zoning designation, A-2 with a conditional use, is consistent with the Class III landfill use. Water supply wells within 1 mile of the site are provided in Appendix 5-E. The water supply well location survey is based on existing information and an infield survey. The 500-foot setback from the approved landfill footprint to the private potable wells appears to be met, pursuant to FAC 62-701.300(2)(C).

Angelo's has submitted an application to the SWFWMD to use an on-site irrigation well for potable purposes. The SWFWMD well construction permit (No. 688944.01) requires that this well be included in the routine sampling events in accordance with Specific Condition No. 32.b., of permit No. 177982-002-SO when the disposal cells become less than 500 feet from the



wellhead. Semi-annual monitoring of this well will be required once disposal operations begin in Cell 2.

### 3.4 TOPOGRAPHY

According to the USGS 7.5 minute quadrangle map shown in Figure 3-1, the land surface of the subject site has elevations ranging from 85 feet to 175 feet National Geodetic Vertical Datum (NGVD). Natural land surface generally slopes to the northeast on the northern half of the property and southeast on the southern half of the site. A recent site-specific topographic survey is shown on Figure 3-3. The topography of the northern half of the property was obtained from two-foot contour maps provided by the Southwest Florida Water Management District. The topography on the southern half of the property was obtained from an onsite topographic survey.

#### 3.4.1 100-Year Flood Prone Areas

Figure 3-4 depicts a 100-year flood prone area map from the U.S. Federal Emergency Management Administration for the subject vicinity. As shown, the site is not impacted by an estimated 100-year storm flood.

### 3.5 SOILS

According to the Soil Survey of Pasco County, Florida, published by the U.S. Department of Agriculture Soil Conservation Services (USDA-SCS), the majority of the subject site and surrounding areas are covered by fine sands. A copy of the USDA-SCS Soils Survey Map showing the mapped areas of the major soil types at the subject site and its vicinity is presented in Figure 3-5.

USDA-SCS soil type 12 - Astatula fine sands encompass a small portion in the northeast portion of the site. Astatula sands are nearly level to gently sloping, and excessively drained mainly in the sandhills. Seasonal high water table (SHWT) is typically at a depth of 72 inches in Astatula soil. The permeability is very rapid throughout the soil. Both the available water capacity and natural fertility of the Astatula soil are low.

USDA soil type 32 - Lake fine sands comprise the majority of the soils found on the property. These soils are nearly level to gently sloping and excessively well drained. They occur along

ridgetops and on low hillsides in the uplands. Permeability is rapid throughout the soil and the water table is below a depth of 120 inches. The available water capacity is very low in all layers and the natural fertility and organic matter content are both low.

USDA soil type 72 - Orlando fine sands are found in a small area in the northeast portion of the property. These soils are nearly level to gently sloping and well drained. The water table is typically at a depth greater than 72 inches with permeability of the soil rapid throughout. The available water capacity is low in the surface layer and very low in the other layers.

### 3.6 LANDFILL SITE IMPROVEMENTS

The 160-acre landfill site is also currently being operated as orange groves and improved pastures. The following site improvements have been installed to meet landfill operational requirements.

#### 3.6.1 Entrance Facilities

An office trailer (gatehouse) is located onsite for the gate attendant. This trailer will have hand washing and toilet facilities. The trailer will be served via the on-site non-potable water supply well. ~~Bottled water will be used for drinking water.~~ Electric and telephone services will also be available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Site Plan provided as Figure 3-6. (C-1).

#### 3.6.2 Roads

The primary haul route to reach the Enterprise Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R.35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R.35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R.35A to the entrance of what will be the active portion of the landfill. Enterprise RDF will maintain this access road to provide adequate access.

Access roads to the working face will be constructed from on-site soils and/or recovered materials such as concrete and asphalt. This will be done on an as needed basis.

### 3.6.3 Effective Barrier

The existing Enterprise property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed along the south and east boundaries. The security fence ~~shall be~~ consists of a 6-foot high-galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. ~~The site is currently surrounded by a 5-foot high livestock fence.~~ The chain link fence ~~will be~~ was installed within 90 days of permit issuance. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters will be installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-foot high berm has been constructed along the site's frontage to Enterprise and Auton roads, see Figure 3-11 (C-6). The required County, and FDEP setbacks will be surveyed in and marked upon permit issuance.

### 3.6.4 Weighing or Measuring Incoming Waste

A scale system is used as shown on the Site Plan. The scale will be calibrated prior to use and every six (6) months, thereafter. Trucks will be weighed as entering the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste material disposed will be determined and the appropriate fee assessed. The scale was operable prior to the first day of operation.

### 3.6.5 Vehicle Traffic Control and Unloading

Generally, truck traffic will be controlled by first in - first out, as directed by the working face spotter when and where to dump. There will be adequate space for truck staging at the site's gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mine truck traffic vs. landfill truck traffic to their appropriate areas of the site.

### 3.7 EXCAVATION OPERATIONS AND CELL CONSTRUCTION

The soils on the site will be excavated and removed for road base and filling operations. A Pasco County permit has been received which allows an excavation setback of 200 feet and a restoration slope of 6H:1V. Figure 3-7 (C-2) presents the phasing of the landfilling/excavation operation at the Enterprise facility. Based on setbacks of 200 feet, a landfill/excavation base ranging from 80 to 86 feet NGVD (at least 5 feet above seasonal high water table), existing topography, and landfill excavation slope of 2H:1V, we estimated the existing soil available for excavation operations to be approximately 4,351,700 cyds. The approximate rate of soil removal from the site will be 400,000 cyds per year, but may vary depending on market conditions.

Excavation slopes will not exceed 6H:1V pursuant to the Pasco County permit; however, once an excavation phase is complete, a portion of the excavated soils from the mining operation will be used as landfill construction material. An estimated 800,000 cyds of soils will be reserved to provide adequate cover material for the landfill operation. A slope stability analysis is discussed in Section 3.8.1 and Section 4 - Geotechnical Report.

The first excavations will take place in Phase 1/Cell 146, Phase 2/Cell 165, and Phase 3/Cell 15, in the in the Northeast corner. This area will served as at the original temporary stormwater pond. Excavation will continue towards the south into Phase 43/Cell 1, and will follow the sequence shown in Figure 3-7 (C-2). Modification of the temporary stormwater pond is described in Section 3.10.3.

As new cells are constructed, the cell will be excavated to approximately three-feet below the approved excavation base grade. Stockpiled confining material, obtained from on-site excavation, will be sampled for laboratory proctor testing for use as cell floor material to construct a three-foot thick continuous confining layer. Material with acceptable permeability and proctor test results will be placed into the constructed cell in three lifts, and compacted by multiple passes with a 40,000 lb, D-6 Dozer, or equivalent. The dozer will compact the material in the bottom of the excavation and up the side slopes into the dozer track marks. After each lift is compacted with the dozer, a 12-ton, 84-inch vibratory sheeps-foot roller, or equivalent, will be used to roll the material. The daily activities will be recorded, including any the tie-in locations, thickness of each compacted lift, verification of the compaction and moisture content testing, verification of equipment used for compaction, and verification of dozer tracks at the tie-in

surfaces (no smooth surfaces). Field logs and photographs documenting the field work will be provided to the Department. A topographic survey will confirm the finished floor grades.

Excavation will be such that 2H:1V slopes will only be encountered on the outer edge boundaries of the cells. A 3H:1V working face slope, beginning at the 2H:1V slope face, will be used for landfilling the waste. Ample space shall be maintained between the working face and the 6H:1V excavation slope of the adjacent cell to allow for a berm and stormwater conveyance, as shown in the sequencing figures, 3-17 through 3-22.

The current working cell shall be overcut by 50 feet in order to provide for truck traffic and stormwater transport to the temporary pond. A six (6) foot wide berm will prevent stormwater from entering the working face. An open channel will transport stormwater to the temporary pond. See Figure 3-12, (G-1).

### 3.8 METHOD OF CELL SEQUENCE

The landfill operation will progress in a series of cells as shown on Figure 3-6 (C-1). Cell No. 1 will begin at the east portion of the site with material placed against the east slope with the first lift consisting of 10 feet deep fill. Cell No. 1 will then continue to the south along the east bank and extend approximately 550 feet out from the west slope. Each lift will be compacted as the waste is placed in the cell. The access road will be relocated to provide access to the next cell. The cell landfilling will continue in similar fashion until the cell reaches a height of one-half of the vertical height of the slope. Some areas of the cells may have partial lifts, based on these elevations. The working face shall not exceed a slope of 3H:1V and a width of 100 feet along the side slopes, however, once the waste elevation reaches a height of 125 feet, NGVD, the working face slope shall not exceed 4H:1V. Cell closure will commence immediately after cell completion. Within 120 days of Cell No. 1 completion, the final 3 feet cover of soil will be placed and compacted to a minimum of 1.5 feet barrier layer with 18 inches of soil that will sustain vegetation, and vegetated, see Closure Plan. The stormwater retention pond (Pond 1) will be constructed at this time, see SWMP Section 6. The north and west sides of completed Cell No. 1 stormwater will drain to the temporary pond, in the northeast corner of the site.

Cell #15 is the next 560-foot strip to the north of Cell #1. Cell sequencing will continue to the north (through Cell #15) and then move to the west and south portions of the landfill filled areas for eCells 2 to 135. Completion of cells 14, 16, and a portion of Cell 5 will entail filling the

northeast temporary retention pond once the floor of the pond has been built up with clean debris or clean fill to the landfill base elevation of 80 feet NGVD in this portion of the landfill. The ponds constructed for completed cells within the buffer areas will approximately replace the stormwater capacity of the northeast temporary pond.

The sequence of filling operations are as follows (see Figures 3-17 through 3-18):

- Sequence 1      Fill Cells 1, 15, & 2 four 10-12' lifts (125').  
Final cover to be placed on outer slopes as constructed above grade.
- Sequence 2      Fill Cell 3 four 10-12' lifts (125'), against Cell 2 slope.  
Final cover to be placed on outer slopes as constructed above grade.  
Fill Cell 4 four 10-12' lifts (125'), against Cell 1 and 3 slopes.  
Fill portion of Cell 5 four 10-12' lifts (125'), against Cell 4 and 15 slopes.  
Fill Cells 2 and 3 three 10' lifts (155'), final cover on outer above grade slopes.  
Fill Cells 1 and 4 three 10' lifts (155'), final cover on outer above grade slopes.  
Fill Cells 15 and 5 three 10' lifts (155'), final cover on outer above grade slopes.
- Sequence 3      To be determined.
- Sequence 4      To be determined.
- Sequence 5      To be determined.
- Sequence 6      To be determined.
- Sequence 7      To be determined.  
Complete final closure of landfill.

Waste filling for Sequences 3 through 7 will be proposed during the permit renewal period. This is due to changing market conditions for sale of soils and limited ability to excavate and stockpile on-site soils.

Lift height includes cover material. Due to the landfill bottom elevation, some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.
- Stormwater will be diverted to the onsite temporary storage pond until the latter part of the landfill life when Cells 14 & 16 begin to accept waste.

#### 3.8.1 Vertical Expansion

The landfill is permitted to be completed from 125 to 170 feet NGVD. The final grading plan is shown on Figure 3-10 (C-5). The finished grade will extend the existing hill eastward. The interior temporary side slopes will be no greater than a 6H:1V slope and a series of swales and other stormwater conveyance will be used to prevent side slope erosion, see Section 6.

The top (30H:1V) and side slope (4H:1V) designs provide for proper drainage and minimize rainfall infiltration into the landfill surface.

#### 3.8.2 Erosion Control

The landfill's cell construction plan calls for the excavation of the existing sand mine at 6H:1V sidewall slopes of the pit to a 2H:1V slope for the outer cell boundaries prior to landfilling each cell. This slope can be safely maintained as supported by the Slope Stability Analysis, in the Geotechnical Report, Section 4.0. The 2H:1V excavation would not be initiated until the cell is ready to receive waste materials, and then the outer edge slope will first receive waste. This will

minimize the time frame that a 2H:1V slope is exposed to the elements. The following engineering controls will be used to minimize erosion:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.
- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the regrading of the slope, begin to fill against the 2H:1V slope with the landfill material. As a minimum, the fill should be placed to a height of one-half the vertical height of the slope and at a 3H:1V slope or flatter.
- When the 100 linear feet of slope is backfilled with landfill material to one-half the vertical height of the slope, the same procedure can be followed for another 100 linear feet until the landfill is complete.

See Geotechnical Report, Section 4.0 for more details.

If blowing sand becomes a problem, silt fences will be installed at the top of the 2H:1V side slope along the temporary berm/ditch.

### 3.8.3 Life Expectancy

Adequate soil stocks will be maintained to provide the soil cover material for closure activities (approximately 800,000 cyds). The calculated volume of each of the proposed landfill cells and sequencing is presented on the attached Table 1 of this submittal. At the proposed waste disposal rate, based on similar landfill's quarterly reports to the County, the landfill will dispose of approximately 459,000 cyds per year of non-compacted Class III materials; which corresponds to approximately 270,000 cyds of compacted wastes (1.7:1 ratio) as placed in the landfill. This calculates to roughly two (2) lifts across a cell per year or a maximum of approximately two, 6-



acre, 10-foot, lifts per year. If this rate continues, we estimate that the life of each cell is approximately 2 years. Sequences 1 and 2 will be permitted first for landfilling.

Therefore, based upon the calculated volume of landfill space available, the landfill has an estimated life expectancy of 30 years at projected disposal volumes and compaction rates.

### 3.9 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compatibility. Bulky, incompressible items shall be separated and reduced as appropriate by the chipper/crusher and disposed of or recycled. The remaining debris is disposed of in designated "cells" using onsite equipment to place the debris and a Rex 370-C Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The amount of weekly cover material required for the design life of the landfill is estimated to be approximately 400,000 cyds. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion (see Figure C-1 for an illustration of the cell closure sequence and Figure C-3 for final cover design of the Class III landfill site). Those landfill cells within the eastern half of the landfill will be temporarily closed until a second tier of cells are filled on top to planned grade, see Sheet C-5.

A final cover of three (3) feet of compacted soil will be placed upon closed cells, see Closure Plan, Section 7. Cell closure shall conform to the grades and lines specified in the grading plan. The grading plan shall conform to the rules and regulation specified in 62-701.600, Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may be required in the closed cell areas.

### 3.10 DESIGN OF GAS, LEACHATE AND STORMWATER CONTROLS

#### 3.10.1 Gas Monitoring and Control

The type of material to be disposed in the Class III Landfill is not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact. Therefore, no active gas control systems or venting is proposed. However, because biodegradable waste will be accepted, a passive gas control system is proposed, see section 3.10.1.5. The Enterprise RDF site Manager will conduct daily surveys of the landfill for objectionable odors or gas and notify the County of any positive detection and immediately take corrective actions. Quarterly gas point monitoring is currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design. Other best management practices to prevent odors include: 1) closure of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

##### 3.10.1.1 Gas Probe Locations

Gas monitoring points are spaced approximately 600 linear feet apart surrounding the landfill. Figure 3-13 presents these locations of the gas probes surrounding the landfill.

After reviewing the sites' geology and topographic maps for any high permeability or low areas that might accumulate methane, we found no significant low areas, nor any geologic heterogeneities that would cause us to locate gas probes at potential accumulation locations surrounding the landfill or at closer spacing than proposed. Therefore, a total of 16 gas monitoring probes will be installed throughout the subject landfill site. The gas probes are to be placed no farther than 25 feet from the toe of the landfill.

##### 3.10.1.2 Gas Probe Design

Attached Figure 3-14 presents our gas probe design for the subject landfill site. These gas probes are designed to be surface sealed and to provide a greater permeability than the surrounding sediments to act as collector points for any methane gas, if present. Based on the landfill design, we have designed all of the gas probes to each be typically 20-foot in depth with an 18-foot open

screen for the monitoring point. This depth will allow the screened interval to intercept the full cross-section of the landfilled waste that could potentially generate methane.

The groundwater table is approximately at a 50-foot depth below land surface (bls) across most of the site, so these gas probes are not designed to intercept the groundwater table. The polyvinyl chloride plastic pipe (PVC), Schedule-40 was selected as the material of choice for these wells since it is basically inert to any attack from landfill gases and most other landfilled materials. The PVC casing and screen will be flush-threaded and have a screen slot size large enough to accommodate easy methane extraction from the monitoring point. The sand/bentonite slurry proposed for a surface seal shall be a blend of 4 parts of sand to one part of granular bentonite. The sand and the bentonite shall be mixed dry and hydrated immediately prior to placing it in the annular space of the borehole. The gas probe points are proposed to be installed by hollow-stem auger to construct an eight-inch borehole to be filled with pea gravel. The pea gravel shall meet the requirements of FDOT standard size No. 10 aggregate washed pea gravel. Each gas probe will be protected by a surface mounted well protector and locked for security purposes. Each gas probe will terminate at the surface with a PVC ball valve to accommodate easy monitoring of methane levels, with a portable meter. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded.

#### 3.10.1.3 Methane Gas Measurement

In accordance with the subject landfill closure permits, methane gas levels will be monitored at each of the 16 gas monitoring points quarterly and submitted to the FDEP for review. A portable explosimeter, or lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D, Operations Plan, presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air and percent LEL. The reporting action level for methane in air will be considered 5 percent by volume in air as measured by the lower explosive limit. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two

weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.

#### 3.10.1.4 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL or greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise RDF operator will institute measurement of methane in nearby structures, i.e., stormwater collection points, or any maintenance or office buildings nearby the subject gas probe until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from any nearby structures and may include monthly monitoring measurements at the high methane gas probe points until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the LEL.

#### 3.10.1.5 Passive Gas Vents

Within 90 days of closure of each landfill cell, a passive landfill gas vent will be installed at the highest point of the cell to prevent explosions, fires and damages to vegetation from methane gas buildup. Figure 3-15 shows the location of the 16 gas vents and Figure 3-16 presents the design of a typical vent. The facility's gas emissions are expected to be far below the threshold of a Title V or an NSPS permit.

#### 3.10.2 Leachate Control

Liquid disposal is not permitted at the Class III Landfill site. No liner or leachate control system is required for the Enterprise RDF Class III landfill based on an existing natural clay layer underlying the landfill. Since the Facility accepts only those wastes described in 62-701.340(3)(d), FAC, it is not expected to produce a leachate that would pose a threat to public health or the environment. The strict method of controlling type of wastes disposed of also

supports the leachate and liner exemption, see Operations Plan, 5.0. The resulting seepage primarily will consist of rainwater runoff flowing through the fill material. The intervening soils are expected to attenuate and retard any pollutants generated prior to reaching the groundwater. Therefore, no leachate containment system is required.

Based on well inventory information from the Southwest Florida Water Management District, shallow residential wells in the area have a depth ranging from 75 to 190 feet. Potable wells normally withdraw water from limestone in the Floridan aquifer.

A consistent confining layer above the limestone has been identified across the site, as described in detail in the Hydrogeological Report. Additionally, Floridan aquifer monitor wells will be installed on the site to ensure early detection of any exceeded groundwater parameters in this aquifer.

### 3.10.3 Stormwater Controls

The approved Stormwater Management Plan for the landfill consists of "swales" and pond facilities constructed within the 200-foot landscape buffer zone to collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by Pasco County and the FDEP. In the interim, stormwater will be controlled mainly by percolation into the soil or by overland flow to the temporary stormwater pond to be located in the northeast corner of the site. The site's topography generally slopes downward to the northeast thus facilitating stormwater collection. Refer to Section 6 for details of the Stormwater Management Plan.

The stormwater management system was recently modified to include Cells 14 and 16, and a small portion of Cell 5, as the temporary stormwater pond. As the modified pond is constructed, the base of the pond will be certified with a three-foot thick confining layer, in accordance with construction permit specific condition 9.c. In addition, the design of Pond 2 has been slightly modified to accommodate excavation and monitor wells on the east side of the landfill.

### 3.11 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell, see Reclamation and Closure Plan (Section 7) for further details.

### 3.12 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Figure 3-10 (C-5)) and in the cross-sections (Figures 3-8 (C-3) and 3-9 (C-4)). The mined areas will be certified to the approved Landfills bottom grade prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas.

### 3.13 SETBACKS AND VISUAL BUFFERS

The following setbacks (buffers) from the boundary lines of the site shall be used:

1. Minimum of 200 feet from boundary lines to landfill footprint.
2. Minimum of 500 feet setback from surrounding residential wells to landfill footprint.

Buffer areas are to be improved to maintain visual screening of the landfill by the following methods.

1. 8-foot high berms along the frontage of Enterprise and Auton roads.
2. Landscaping to provide visual buffers within setback areas are shown on attached Figure 3-11 (C-6) and will be completed within 6 months of permit issuance, or sooner, and will be in compliance with the Pasco County LDC.
3. Trees shall be planted in the specified buffers as required by the Pasco County and as shown on Landscaping Plan, Figure 3-11 (C-6).
4. Existing trees within the setbacks will be maintained.

All trees shall be nursery grown and meet the grades and standards established by the Florida Department of Agriculture for FL #1 materials. Trees shall be sound, healthy, vigorous species free from defects and fully developed without voids and open spaces.

The planting of trees on the site shall conform to the following landscape requirements in accordance with the County LDC, see notes on Figure 3-11 (C-6).

Planting shall be inspected at the completion of the project. Final acceptance shall subject the project to compliance with specified material and installation requirements.

### 3.14 FOUNDATION ANALYSIS

A Geotechnical evaluation was conducted on the landfill site to estimate if the base and geologic setting are capable of providing structural support. Universal Engineering Sciences, Inc. completed the Geotechnical Report included as Section 4. The report states that the landfill base will adequately support the Class III landfill wastes without excessive settlement. It also states that the potential for sinkhole development on the site is low. In the event a sinkhole is discovered on-site, or within 500-feet of the site, the Department will be notified within 24 hours. A reclamation plan of action will be submitted to the Department within seven days. Soil boring logs used to support the foundation analysis are also in Section 4, Appendix B.

### 3.15 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.

- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area.

### 3.16 OPERATIONS PLAN

The landfill's Operations Plan is included as Appendix 3-A.

### 3.17 CONTINGENCY PLAN

The landfill's Contingency Plan is included as Appendix 3-B.



# REVISED OPERATIONS PLAN

***APPENDIX 3-A***

***OPERATIONS PLAN***

***ENTERPRISE RECYCLING & DISPOSAL FACILITY  
41111 ENTERPRISE ROAD  
DADE CITY, FLORIDA 33525***

***PREPARED FOR:***

***ANGELO'S AGGREGATE MATERIALS, LTD.***

***PREPARED BY:***

***HARTMAN & ASSOCIATES, INC.  
A TETRA TECH COMPANY  
201 E. Pine Street, Suite 1000  
Orlando, Florida 32801***

***AUGUST 2004***

***HAI# 99.0331.016***

Hartman & Associates, Inc.  
201 E. Pine St., Suite 1000  
Orlando, FL 32801  
Engineering Business #5814  
Jennifer L. Deal, P.E.

  
Florida Registration

0000058592

## OPERATIONS PLAN

### 1.0 DESIGNATION OF RESPONSIBLE PERSON(S)

The current designated responsible person for the proposed Enterprise Recycling and Disposal Class III facility is Mr. Dominic Iafrate. All correspondence and inquiries concerning the ~~proposed~~ Enterprise RDF Class III Landfill permits and operation should be addressed to him at:

Mr. Dominic Iafrate, President  
Angelo's Aggregate Materials, Ltd.  
26400 Sherwood Avenue  
Warren, Michigan 48091  
(586) 756-1070

### 2.0 LANDFILL SITE IMPROVEMENTS

The 160 acre landfill site is also permitted to be a sand mine facility. The following site improvements have been installed, to operate the Class III Landfill.

#### 2.1 Facilities

An office trailer (gate house) is located onsite for the gate attendant. This trailer will have handwashing and toilet facilities. The trailer will be served via the on-site ~~non~~-potable water supply well. ~~Bottled water will be used for drinking water.~~ Electric and telephone services will also be available to the trailer office. Site entrance improvements also include an all-weather entrance roadway, scales and perimeter road as shown on the Site Plan, Figure 3-6 (C-1).

#### 2.2 Primary Haul Route

The primary haul route to reach the Enterprise Recycling and Disposal Facility (RDF) entrance is from Clinton Avenue east across C.R.35A to east on Enterprise Road to the entrance. A secondary haul route would be from C.R.35A to Enterprise Road east to the Enterprise facility.

Enterprise Road has been improved to an all-weather access roadway from C.R.35A to the entrance of what will be the active portion of the landfill. Enterprise RDF will maintain this access road to provide adequate access.

### 2.3 Effective Barrier

The existing Enterprise property previously had a five-foot high wire fence along the perimeter of the site. A 6-foot security fence has been constructed ~~upon County permit approval~~along the south and east boundaries. The security fence ~~shall be~~consists of a 6-foot high galvanized chain link fence, hereafter referred to as the "security fence." The five-foot wire fence still exists along the north and west property boundaries. The chain link fence ~~will be~~was installed within 90 days of permit issuance. Three (3) foot square "NO TRESPASSING" signs with 5-inch letters will be installed at no less than 500-foot spacing and at all corners to notice unauthorized access. The only point of access into the landfill site will be through the ticket gate at the entrance. This gate will be locked during closed hours.

An 8-feet high berm has been constructed along the frontages of Enterprise and Auton roads as a visual and noise buffer.

The required County and FDEP setbacks will be surveyed in and marked upon permit issuance.

### 3.0 OPERATING HOURS

The landfill shall have the following operating hours:

<u>Day</u>	<u>Hours of Operation</u>
Monday through Friday	7:00 am to 6:00 PM
Saturday	7:00 am to 2:00 PM

Operational hours may be extended periodically to meet special requests of customers, but at no time will operating hours extend past 7:00 A.M. to 7:00 P.M. Monday through Saturday. Waste will not be accepted during non-daylight hours.

### 4.0 CONTINGENCY OPERATIONS

A natural disaster closing the facility would not cause a major impact on the surrounding communities. Debris originally destined for the landfill would be rerouted to another permitted landfill site. In terms of equipment breakdown, there will be two working pieces of equipment

for all stages of landfill operation. If both should breakdown, replacements can be rented or substituted from onsite or offsite within 24 hours.

If the site were to stay operational as a landfill to accept yard waste during and after a major storm, the excavation operations would cease and no soils would be removed from the site until waste receipt returned to normal levels.

The site access roads will be constructed to allow passage of vehicles under all expected weather conditions. See Appendix 3-B for the site's Contingency Plan.

## 5.0 WASTE STREAM QUALITY CONTROL PLAN

### 5.1 Visual Inspection

An estimated 1500 tons of Class III waste material will be received at the facility daily. Materials brought onto the Enterprise RDF site will be inspected three times. The first inspection takes place at the site entrance. The site will only accept Class III debris; therefore, any vehicles hauling unacceptable waste can be turned away by the attendant at the ticket gate. The gate attendant will question all waste carriers as to the character of their wastes. A video camera has been installed over the scale location that will allow the gate attendant to visually screen all carrier loads prior to disposal.

The second inspection is a visual inspection that will occur at the disposal/working face. This landfill employee, the spotter, stationed at the working face will be responsible for spotting trucks bringing in disposal loads. The spotter will show the drivers where to unload, and will also inspect the trucks to make sure unacceptable materials are not unloaded. The spotter will have the authority to ensure that unacceptable materials are reloaded on the truck the material was brought in on.

The third inspection will occur as the waste is spread by the equipment operator. Any unacceptable wastes observed will be placed in the appropriate container located at the working face.

## 5.2 Documentation of Waste Received

Documentation includes recording the name of the company disposing, driver's signature, all vehicle identification numbers, quantity of waste (tons), and type of waste (to meet FDEP and Pasco County's requirements, all vehicles entering the landfill will be weighed). The type of material and location from which the waste was generated will be recorded. This provides a record for tracing ownership of individual loads. See Operating Record, Section 19.1 for more details.

## 5.3 Contingency for Unacceptable Materials

If unacceptable materials are delivered to the landfill, they will be refused entry at the gate, if identified as unacceptable at the ticket gate. If the unacceptable materials are observed by a spotter while unloading, they will be reloaded onto the delivery vehicle. Should the vehicle leave before the unaccepted waste has been discovered, Enterprise RDF will place the unacceptable material into an appropriate container located at the working face, as the unacceptable materials are found onsite. Enterprise RDF, or the transporter/generator will then pay a commercial hauler to transport the materials to a disposal facility permitted to accept that type of material. Inadvertently accepted Class I waste shall be stored in a leak proof container with a lid to prevent the generation of leachate and odor. The Class I container contents will be taken weekly for proper disposal at a FDEP permitted Class I Landfill. Other unacceptable nonputrescible, nonhazardous wastes that are inadvertently accepted will be stored in a roll-off container and will be removed for proper disposal within 30 days. Any batteries, paint, chemicals, thermostats or similar items observed will be stored in the secured maintenance building until they are taken for proper disposal. This plan should meet the inspection needs for the site to prevent disposal of unacceptable wastes.

If suspect regulated hazardous wastes are identified by operators or spotters by random load inspection or discovered deposited at the landfill, the FDEP will be notified promptly, as well as the hauler and generator of the wastes, if known. The area where the hazardous wastes are deposited will immediately be secured from public access. If the generator or hauler cannot be identified, Enterprise RDF will assume the cleanup, transportation and disposal of the waste at a permitted hazardous waste management facility.

#### 5.4 Acceptable and Unacceptable Waste

The Enterprise RDF Class III Landfill will accept only those solid wastes as defined in F.A.C., Chapter 62-701.340(3).

The following is a compilation of acceptable waste materials.

- |                        |  |
|------------------------|--|
| • Land clearing debris | • Construction debris                                    |
| • Demolition debris    | • Non-Treated Wood Pallets                               |
| • Glass                | • Unpainted and untreated wood scraps from manufacturing |
| • Carpet               | • Waste Tires (Shredded)                                 |
| • Cardboard            | • Paper  |
| • Asbestos             | • Furniture other than appliances                        |
| • Plastic              | • Yard wastes  |

The following is a compilation of unacceptable waste materials:

- |  |   |
|--|---|
| • Putresible Household Waste   | • Refrigerators, freezers, air conditioners (white goods) |
| • Paint  | • Biomedical waste  |
| • Any toxic or hazardous Materials (i.e., batteries, solvents, oils, etc.) | • Automobiles or parts                                    |
| • Drums  | • Septic tanks and pumping                                |
|  | • Whole waste tires                                       |
|  | • Electronics   |

The landfill site has a visible sign at the site entrance on Enterprise Road. The sign depicting the accepted wastes, hours of operation, tipping fee, landfill classification, and site's 24-hour emergency contact and telephone number was posted prior to operation as a Class III Landfill, see approved sign in Appendix A.

#### 5.5 Random Load Inspection

On a random basis, one (1) load per day will be selected for inspection from the incoming loads. These loads will be selected by the site manager. Once a load has been selected, it will be temporarily isolated from all other incoming loads until the inspection has been completed.

The following procedures shall be followed when inspecting the load:

- A. The load will be “broken apart” by both the spotter and equipment operator to allow for a thorough inspection.
- B. The inspectors will be watching for any unauthorized waste contained in the load.
- C. If the load contains any unauthorized materials, they shall immediately be reloaded onto the customer’s vehicle for removal from the site. In the event that the transporter will not remove the unacceptable materials, the materials will be loaded into an appropriate container and removed from the site. The customer/generator will be contacted and notified of the site policies as well as charged for the off-site disposal service.
- D. In all cases, if unacceptable wastes are found during the inspection, the customer will be notified to provide immediate feedback to prevent future occurrences.

All inspection shall be documented on the site’s “Random Load Inspection Form,” signed by the inspector, and kept in a current Log Book, see Appendix B. Log books will be maintained at the landfill for at least 3 years. Inspections shall be performed by trained site personnel.

#### 5.6 Asbestos Waste Disposal

Asbestos-containing materials (ACM’s) will be accepted for disposal in accordance with 40 CFR Part 61.154. Arrangements for disposal of ACM’s between Enterprise RDF and the waste generator/hauler will be recorded in the operations record as to the quantity and date of shipment to the landfill.

To ensure that all waste deposited in the Facility meets state and local requirements, all facility personnel shall receive training from their supervisor on the identification of unacceptable materials, which is any waste other than properly labeled and bagged ACM. Unregulated, non friable asbestos containing materials are not required to be bagged, but all other requirements are unchanged.



Each load of ACM arriving at the facility must be accompanied by a completed Waste Shipment Record (WSR) in accordance with 40 CFR 61.150. Each load will be inspected to insure that it is properly bagged, that bags are intact and properly sealed, and that the required warning labels and generator labels are affixed. Bags will not be opened prior to disposal.

ACM arriving at the Facility for disposal will be visually screened by facility personnel a minimum of two times. The first screening will be at the weigh scales, controlling access to the Facility, where the truck drivers will be questioned as to what they are transporting and shipping documents reviewed. The gate attendant will also make a cursory visual examination and direct the drivers to the appropriate disposal area. If this examination identifies acceptable materials, the gate attendant will direct the drivers to the appropriate disposal area. If this examination turns up unauthorized material the truck shall be denied access to the site.

The second screening will be at the working face where a trained inspector/spotter will again question the driver and make a visual examination of the load prior to dumping and as it is dumped. This examination shall insure the ACM is properly bagged, the bags are intact and properly sealed, and that the warning labels and generator labels are affixed.

Enterprise RDF personnel will direct the waste hauler to the designated ACM disposal location in each cell, to be determined by the Operator or Site Manager. The ACM will be covered with 6-inches of soil at the end of any day, ACM is accepted. This designated ACM location will be recorded and updated by the annual topographic survey in accordance with 40 CFR 61.154. ACM disposal records will be maintained for the life of the landfill and disposal locations documented in the Closure Report.

#### 5.7 Recycling Operations

The Class III landfill plans to recycle a portion of wastes received. In 1998, the State of Florida passed legislation that set a waste reduction/recycling goal of 30 percent by 1995. In 1992, yard trash was restricted from public Class I and II landfills which provides an opportunity for Class III landfills to segregate yard wastes for recycling. Other wastes planned to be recycled at the landfill are: metals, concrete rubble; paper/cardboard; wood wastes; and possibly waste tires. Enterprise's activities to recover and recycle these products will assist the State and County to meet their 30 percent goal and increase the life of the landfill. However, we believe that a

Materials Recovery Facility permit will not be required for the recycling area since the primary use of the landfill facility is disposal.

Trucks identified at the entrance as carrying primarily recyclable products, (i.e., concrete, metal, wood, paper) will be directed to the currently designated areas of the landfill with recovered material containers. The recovered material containers will be located at the working face.

At the working face, the spotter will direct the separation of mixed loads if the loads contain a sufficient amount of recoverable materials.

Wood wastes may be chipped for mulch, or be placed in roll-off containers for shipment to a wood recycler. Waste tires will be stored in a roll-off container and may be shipped to a recycler or reused on-site, depending on the quantity received.

#### 5.7.1 Reports

A Recovered Materials report will be submitted quarterly by type of waste and tonnage to the Pasco County Solid Waste Department. These reports will also be compiled into an annual report to the FDEP.

### 6.0 WEIGHING OR MEASURING INCOMING WASTE

A scale system is used as shown on the Site Plan. The scale will be calibrated prior to use and every six (6) months, thereafter. Trucks will be weighed as entering the disposal site, and based upon the tare weight of the vehicle, the waste tonnage will be determined. Prior to unloading debris, the tonnage of waste material disposed will be determined and the appropriate fee assessed.

#### 6.1 Fee Schedule

The proposed fee schedule to be used by the public at the Enterprise RDF is as follows:

Waste Type	Unit	Fee per Unit
Class III	Cyds	\$9.50

This fee schedule will be periodically revised according to the prevailing market for waste disposal. Enterprise RDF will notify Pasco County immediately in writing of any fee schedule change.

## 7.0 VEHICLE TRAFFIC CONTROL AND UNLOADING

Generally, truck traffic will be controlled by first in - first out, as directed by the working face spotter when and where to dump. There will be adequate space for truck staging at the site's gate (7-8 trucks) to mitigate any backups toward and onto Enterprise Road. Enterprise RDF will discourage any truck staging prior to landfill opening. Signs will be posted at the entrance gate and on interior roads to guide mine truck traffic vs. landfill truck traffic to their appropriate areas of the site.

## 8.0 METHOD OF CELL SEQUENCE AND LIFE EXPECTANCY

### 8.1 Cell Sequence

The landfill operation will progress in a series of cells as shown on Figure 3-6 (C-1) (See Section 3 at Engineering Report). Cell No. 1 will begin at the east portion of the site with material placed against the east slope with the first lift consisting of 10 feet deep fill. Cell No. 1 will then continue to the south along the east bank and extend approximately 550 feet out from the west slope. Each lift will be compacted as the waste is placed in the cell. The access road will be relocated to provide access to the next cell. The cell landfilling will continue in similar fashion until the cell reaches final grade less 3 feet. Some areas of the cells may have partial lifts, based on the final cell elevations. The working face shall not exceed a slope of 3H:1V and a width of 100 feet along the side slopes, however, once the waste elevation reaches a height of 125 feet, NGVD, the working face slope shall not exceed 4H:1V. Cell closure will commence immediately after cell completion. Within 120 days of Cell No. 1 completion, the final 3 feet cover of soil will be placed and compacted to a minimum of 1.5 feet barrier layer with 18 inches of topsoil and vegetated. The stormwater retention pond (Pond 1) will be constructed at this time. The north and west sides of completed Cell No. 1 stormwater will drain to the temporary pond, in the northeast corner of the site.

Cell #15 is the next 560-foot strip to the north of Cell #1. Cell sequencing will continue to the north (through Cell #15) and then move to the west and south portions of the landfill filled areas

for Cells 2 to 15. Completion of cells 14, 16, and a portion of Cell 5 will entail filling the northeast temporary retention pond once the floor of the pond has been built up with clean debris or clean fill to the landfill base elevation of 80 feet NGVD in this portion of the landfill. The ponds constructed for completed cells within the buffer areas will approximately replace the stormwater capacity of the northeast temporary pond.

The sequence of filling operations are as follows, (see Figures 3-17 through 3-18):

- Sequence 1    Fill Cells 1, 15, & 2 four 10-12' lifts (125').  
                    Final cover to be placed on outer slopes as constructed above grade.
- Sequence 2    Fill Cell 3 four 10-12' lifts (125'), against Cell 2 slope.  
                    Final cover to be placed on outer slopes as constructed above grade.  
                    Fill Cell 4 four 10-12' lifts (125'), against Cell 1 and 3 slopes.  
                    Fill portion of Cell 5 four 10-12' lifts (125'), against Cell 4 and 15 slopes.  
                    Fill Cells 2 and 3 three 10' lifts (155'), final cover on outer above grade slopes.  
                    Fill Cells 1 and 4 three 10' lifts (155'), final cover on outer above grade slopes.  
                    Fill Cells 15 and 5 three 10' lifts (155'), final cover on outer above grade slopes.
- Sequence 3    To be determined.
- Sequence 4    To be determined.
- Sequence 5    To be determined.
- Sequence 6    To be determined.
- Sequence 7    To be determined.  
                    Complete final closure of landfill.

Waste filling for Sequences 3 through 7 will be proposed during the permit renewal period. This is due to changing market conditions for sale of soils and limited ability to excavate and stockpile on-site soils.

Lift height includes cover material. Due to the landfill bottom elevation some lifts may not be a full 10 feet in height.

As each sequence is active, the following procedures will be followed.

- The access road to the working face will be constructed and graded as necessary.
- Waste will be compacted as it is placed. General lift height will be 10 feet and will come within three (3) feet of the final elevation to provide for final cover.
- The working face will remain approximately 100 feet in length.
- Weekly cover of six (6) inches of soil will be placed on the working face.
- Intermediate cover of 12 inches of soil will be placed in areas that will not receive waste within 180 days. The cover may be removed immediately prior to placement of new waste.
- Stormwater will be diverted to the onsite temporary storage pond until the latter part of the landfill life when Cells 14 & 16 begin to accept waste.

## 8.2 Erosion Control

The landfill's cell construction plan calls for the excavation of the existing sand mine at 6H:1V sidewall slopes of the pit to a 2H:1V for the outer cell boundaries slope prior to landfilling each cell. This slope can be safely maintained as supported by the Slope Stability Analysis, in the Geotechnical Report, Section 4.0. The 2H:1V excavation would not be initiated until the cell was ready to receive waste materials, and then only on the outer edge slope to first receive waste. This will minimize the time frame that a 2H:1V slope is exposed to the elements. The following engineering controls will be used to minimize erosion:

- Regrade a maximum of 100 linear feet of the outer edge slopes at a time to 2H:1V. The purpose of this recommendation is that a relatively small area will be subjected to surface erosion at any given time.

- Construct a berm along the top of the slope during the regrading to redirect any rainfall runoff away from the face of the slope. The area along the berm should be graded so as to allow rapid runoff along the top of the slope. Ponding of water near the top of the slope should not be allowed, since seepage through the slope may initiate slope erosion.
- As soon as possible following the regrading of the slope, begin to fill against the 2H:1V slope with the landfill material. As a minimum, the fill should be placed to a height of one-half the vertical height of the slope and at a 3H:1V slope or flatter.
- When the 100 linear feet of slope is backfilled with landfill material to one-half the vertical height of the slope, the same procedure can be followed for another 100 linear feet until the landfill is complete.

See Geotechnical Report, for more details.

If blowing sand becomes a problem, silt fences will be installed at the top of the 2H:1V side slope along the temporary berm/ditch.

### 8.3 Life Expectancy

Adequate soil stocks will be maintained to provide the soil cover material for closure activities (approximately 800,000 cyds). The calculated volume of each of the proposed landfill cells and sequencing is presented on the attached Section 7, Table 1 of this submittal. At the proposed waste disposal rate, based on similar landfill's quarterly reports to the County, the landfill will dispose of approximately 459,000 cyds per year of non-compacted Class III materials; which corresponds to approximately 270,000 cyds of compacted wastes (1.7:1 ratio) as placed in the landfill. This calculates to roughly two (2) lifts across a cell per year or a maximum of approximately two, 6- acre, 10-foot, lifts per year. If this rate continues, we estimate that the life of each cell is approximately 2 years. Sequences 1 and 2 will be permitted first for landfilling.

Therefore, based upon the calculated volume of landfill space available, the landfill has an estimated life expectancy of 30 years at projected disposal volumes and compaction rates.

## 9.0 WASTE COMPACTION AND APPLICATION OF COVER

Waste received shall be segregated based on compatibility. Bulky, incompressible items shall be separated and reduced as appropriate by the chipper/crusher and disposed of or recycled. The remaining debris is disposed of in designated "cells" using onsite equipment to place the debris and a Rex 370-C Compactor, or equivalent, to weekly compact the waste. Initial cover material is planned to be excavated from onsite areas and placed weekly in approximately 6-inch layers on the compacted lifts to control vectors, reduce rain infiltration and provide a more stable working face area. The amount of weekly cover material required for the design life of the landfill is estimated to be approximately 400,000 cyds. An intermediate cover of one (1) foot of compacted soil will be applied if final cover or an additional lift is not to be applied within 180 days of cell completion (see Figure 3-8 (C-3) for final cover design of the Class III landfill site). The proposed final grades are shown in Figure 3-10 (C-5).

Cell closure shall conform to the grades and lines specified in the grading plan. The grading plan shall conform to the rules and regulation specified in 62-701.600, Florida Administrative Code. Pesticides when deemed necessary to control rodents, insects and other vectors shall be used as specified by the Florida Department of Agriculture and Consumer Services. Uncontrolled and unauthorized scavenging shall not be permitted at the landfill site. Controlled recycling may be permitted by the Site Manager responsible for the operation of the landfill facility. Temporary storage of soil fill or recycling materials may be required in the closed cell areas.

## 10.0 OPERATION OF GAS, LEACHATE AND STORMWATER CONTROLS

### 10.1 Gas Monitoring and Control

The type of material to be disposed in the Class III Landfill is not expected to generate significant amounts of methane or other toxic gases since the landfill's design prevents groundwater contact. Therefore, a passive gas control system is proposed. The Enterprise RDF site Manager will conduct daily surveys of the landfill for objectionable odors or gas, record the results, and notify the County of any positive detection and immediately take corrective actions. Quarterly gas monitoring is currently conducted. The facility only accepts Class III debris for disposal and accepts no putrescible household wastes. Surface water and groundwater contact with the Class III wastes will be prevented by the approved facility design thus preventing possible odor operation. Other best management practices to prevent odors include: 1) closure

of each cell as it is completed; 2) weekly soil cover application; and, 3) immediate corrective actions to abate any detected onsite odors.

However, since yard trash is an acceptable Class III waste, and it is biodegradable, a system of gas probes surrounding the landfill is used to monitor methane gas levels.

A system of passive gas vents will be installed to prevent explosions and fires from possible gas generating from the biodegradable wastes (yard trash) in the landfill. The location of the gas vents is shown on Figure 3-15. The construction details of the vents are shown on Figure 3-16. The vents will be installed during the final closure and installation of the final cover over each landfill cell.

A system of 16 gas probes will be installed to monitor gas at the site, see Figure 3-13. The construction details a typical gas probe as shown on Figure 3-14.

### Gas Monitoring Procedures

#### 10.1.1 Methane Gas Measurement

In accordance with the subject landfill closure permits, methane gas levels will be monitored at each of the 16 gas monitoring points quarterly and submitted to the FDEP for review. See Figure 3-13. A portable explosimeter, or lower explosive limit (LEL) meter will be used to measure methane levels from each of the gas probes. LEL meters, such as the MSA Model 260 or GEM 500 or equivalent, will be used to conduct this monitoring. These meters are capable of measuring percent volume of methane in air and the percent LEL level of the methane by volume. The meter shall be calibrated in accordance with manufacturer's specifications prior to each methane monitoring event. Appendix D presents the proposed gas monitoring probe survey form to be used to conduct the quarterly monitoring at the subject site. This form will document at the time of each gas probe reading, air temperature in degrees Fahrenheit, methane levels in percent volume in air as measured by the lower explosive limit. The ball valve will remain closed between monitoring events and pre-purge measurements will be recorded. In the event of a positive gas measurement, the post-purge measurement will also be recorded. The results of each quarterly gas probe survey will be submitted to the Department on the presented form within two weeks of each monitoring event. These events are planned to be coordinated with the semi-annual groundwater monitoring at the subject site.



### 10.1.2 Gas Contingency Plan

The following Contingency Plan will be implemented if any of the measured gas monitoring points methane levels are detected above the 100% LEL of greater than 5 percent methane in air, or if 25% of the LEL or higher is measured in a structure. If this level of methane or greater is detected in any of the probes, the Enterprise RDF landfill operator will institute measurement of methane in nearby structures, i.e., stormwater collection points, or any maintenance or office buildings nearby the subject gas probe until these levels go below the 100% LEL at the subject probe. If methane levels measured in any on-site building exceed 25% of the LEL, building windows and/or doors will be opened for ventilation and all personnel evacuated until methane readings are maintained below 25% of the LEL for methane. The monitoring report for any event that detects methane above the LEL will also report methane levels from any nearby structures and may include monthly monitoring measurements at the high methane gas probe points until the levels go below the methane LEL level or until corrective actions are conducted to reduce methane levels. The FDEP will be notified within seven days of any gas monitoring levels that exceed the LEL.

### 10.2 Leachate Control

Liquid disposal is not permitted at the Class III Landfill site. Based on the approved method for controlling waste disposed of, types of waste received (Class III), and the naturally protective hydrogeological setting, the facility qualifies for a liner exemption. No liner system is required for the Class III landfill primarily based on an existing natural clay layer underlying the landfill. Stormwater runoff will be prevented from contacting the wastes by a system of swales and berms, see Section 6. Since the acceptable wastes are as described in Rule 62-701.340(3)(d), FAC, they are not expected to produce leachate which poses a threat to public health or the equivalent. The strict method of controlling types of wastes disposed also supports the leachate and liner exemption, see Section 5.0 The resulting seepage primarily will consist of rainwater runoff flowing through the top of fill material. The intervening soils within the zone of discharge (ZOD) are expected to attenuate and retard any pollutants generated prior to reaching the groundwater, and/or the bottom of the ZOD. Therefore, no leachate containment system is required.

### 10.3 Stormwater Control

The approved Stormwater Management Plan for the landfill consists of "swales" and pond facilities constructed within the 200-foot landscape buffer zone to collect and contain stormwater runoff from the completed site. These stormwater facilities are designated to retain the 100-year, 24-hour storm volume as required by the FDEP. In the interim, stormwater will be controlled mainly by percolation into the soil or by overland flow to the temporary stormwater pond to be located in the northeast corner of the site. The site's topography generally slopes downward to the northeast thus facilitating stormwater collection.

The site manager will perform monthly inspections of the stormwater management system. Any areas in need of maintenance will be repaired within seven days.

### 11.0 SIGNS

Signs will be posted at the entrance to the Enterprise RDF site which will list the following information:

- The operating entity;
- Charges for disposal;
- Hours of operation;
- No scavenging allowed;
- No hazardous waste accepted;
- List of acceptable and unacceptable waste; and,
- 24-hour phone number of emergency contact.

The gate attendant will direct each driver to the area appropriate to unload wastes. Signs will also be posted to direct trucks to either the borrow pit or the landfill working face.

### 12.0 DUST ABATEMENT PLAN

Enterprise RDF will provide a water tanker to water the landfill access roads if and when dust becomes a problem. This will also be done whenever the County receives complaints about dust or when a dust problem is observed during a County or State inspection.

### 13.0 LITTER AND VECTOR CONTROL PLAN

The nature of the waste to be disposed in the landfill does not typically create litter and vector problems. Daily placement of waste and/or compaction will be the primary means utilized to control litter and vectors. If blowing litter becomes a problem, laborers shall patrol the site as needed and pick up blowing debris and dispose of it in appropriate containers and/or on site. In addition, the laborers shall weekly patrol the haul route west on Enterprise Road to C.R.35A for pick up of litter from vehicles hauling material to and from the site. Temporary fencing to contain litter at the working face of the landfill will be used as needed. These litter controls will also be implemented whenever the County or State receives a complaint from adjacent landowners or a litter problem is observed during an inspection.

### 14.0 FIRE PROTECTION AND FIRE FIGHTING FACILITIES

Fires that originate in landfills are primarily extinguished by soil application. Supplemental fire protection will be furnished by the Dade City Fire Department (Station No. 1). The Fire Department will be notified immediately of all landfill fires. An emergency contact sign will be posted at the entrance so it is visible to emergency vehicles with a contact phone number available 24-hours.

Onsite fire prevention facilities will include:

- Fire extinguishers mounted in the cab of all heavy equipment and in the gatehouse;
- Radio communication to notify personnel of a fire; and
- Onsite equipment (dozer) and fill dirt to extinguish fires on working face.

Soil for fire fighting purposes will be borrowed from the closest unexcavated area of the site to the fire. Details of all fire fighting episodes will be recorded in the landfill operating record.

#### 14.1 Hot Loads and Spills

Any hot load (of authorized material) found will be dumped on an area at least 500 feet away from the active working face. The load will immediately be covered with earth if a fire is imminent. The waste will not be disposed of until it has cooled completely, and the fire hazard has been mitigated.

Since liquid disposal is prohibited in a Class III landfill, spills from waste vehicles are not anticipated. In the case of a fuel spill or leak, the contaminated soil will be collected to the extent possible, contained in a drum or roll off container, and taken offsite within thirty (30) days for proper disposal or treatment.

#### 15.0 LANDFILL PERSONNEL

The gate attendant and certified landfill operator shall be onsite during all operating hours. In addition, there shall be a minimum of one (1) other person (spotter) onsite, for a total of three (3). The state certified landfill operator will be assigned to manage the daily landfill operations. The personnel will be stationed at the landfill ticket gate and active disposal face. Additional personnel will be assigned to the landfill operation as the demand necessitates.

At least one (1) spotter will be at the working face at all times the facility is accepting waste. The spotter will direct vehicle traffic around the working face and will direct drivers where to empty their vehicles. The loads will be inspected as described in Section 5.1. If the load is acceptable, the waste will be spread and compacted as necessary. If the load is unacceptable, the spotter will direct the driver to reload the waste into the vehicle, if possible. The spotter will also discourage scavenging by the public.

A typical work schedule is as follows:

Day	Operating Hours	Gate Attendant	Certified Operator	Spotter(s)	Equipment Operator
M-F	7 am –6 pm	1 (7 am–6 pm)	1 (6 am -7 pm)	Min. 1 (7 am –6 pm) For 2 or more (7 am –4 pm), (12 pm –6pm )	Min. 1 (7 am –6 pm)
S	7 am – 2 pm	1 (7 am –2 pm)	1 (6 am –3 pm)	Min. 1 (7 am –2 pm)	Min. 1 (7 am –2 pm)

## 15.1 Training Plan

Enterprise RDF will implement an employee training plan to properly train their landfill operators and spotters to operate the landfill in accordance with this Operations Plan, state and local regulations, and accepted disposal practices and to properly manage any hazardous or prohibited materials which are received at the landfill.

A trained operator will be at the site during all times that the landfill receives waste. All facility operators will be trained at an approved FDEP training course. Each operator will submit proof of training and documentation to the FDEP upon receipt of their certificates.

Landfill operators must have at least one year of work experience in landfill operation and a high school diploma; or have at least two (2) years experience at a Class I, II, or III landfill. Each operator will complete at least 24 hours of initial training in an FDEP-approved training course, and shall pass an examination as part of that training. Sixteen (16) hours of continuing training will be completed within three (3) years of each operator's initial training from an approved course documented by the form in Appendix C. A list of FDEP approved training courses for operators and spotters is included in Appendix E.

Enterprise RDF landfill spotters will complete an initial eight (8) hour FDEP-approved course and four (4) hours of continuing training every three (3) years. Records documenting each employee's training course completion and schedule will be maintained and kept at the landfill office at all times.

In addition to FDEP required training, in-house training programs will be conducted by Enterprise RDF trained operators for interim operators, spotters and other employees in proper Class III landfill operations, unacceptable Class III waste material handling, asbestos handling, and facility maintenance. These in-house courses will be provided at least every six (6) months and be documented in a training log as shown in Appendix C.

## 16.0 COMMUNICATION FACILITIES

The landfill gate house will have both telephone and facsimile facilities. In addition, all landfill operating areas (gate house, working face, etc.) will have radio communication with the base station at the gate house.

## 17.0 EQUIPMENT INVENTORY

Equipment currently planned for use at the landfill site includes:

- A. D-8 Caterpillar bulldozer, Rex 370-C Compactor; two 2.5 cyd loaders, water truck, 590 John Deer backhoe, or equivalent are sufficient for adequate operation of the facility. A wood chipper/grinding machine (Hogzilla), or equivalent, will be moved to the site periodically to process wood wastes as needed. Additional equipment, such as a grader may be rented as needed.
- B. Arrangements will be made to provide alternate equipment within 24 hours following an equipment breakdown.
- C. There will be safety devices present on equipment to shield and protect the operators from potential hazards during operation.

### 17.1 Equipment Maintenance

Enterprise RDF will conduct routine heavy equipment and vehicle maintenance onsite. Maintenance includes fueling of heavy equipment with diesel fuel, lubrication, oil changes and, antifreeze changes. Tire repairs will be handled by an outside service company.

A permanent equipment fueling facility will be installed and registered in accordance with FAC 62-761. Pasco County will be copied on the registration.

Oil and antifreeze changes will be contained by large drip pans to catch the waste oils. These wastes will then be transferred either to a 250-gallon waste oil skid tank or to a 55-gallon drum for waste antifreeze, which will be located in a containment area. Enterprise RDF plans to enter into contracts with licensed recyclers to periodically pick up the waste oil and antifreeze.

Records of these pickups will be maintained by Enterprise RDF. All virgin lubricants will be stored within the proposed secured maintenance building. See the site plan for location.

## 18.0 SAFETY DEVICES

All operating equipment which will be utilized at the landfill site will be fitted with rollover protection and fire extinguishers. All landfill personnel will be required to wear safety helmets, safety shoes, eye protective glasses, gloves, and safety vests. The onsite heavy equipment will meet OSHA safety requirements. First aid equipment will be kept in the office trailer and in the operating equipment.

## 19.0 RECORDS, PERMITS AND REPORTS

A copy of any Florida Department of Environmental Protection (FDEP) and Pasco County approved engineering drawings, permits and supporting information shall be kept at the facility for reference and inspections. Permits will be posted at site per ordinance. A waste type and quantity intake (in tons) log will be kept daily, compiled monthly and a report will be submitted quarterly to Pasco County and the FDEP.

An annual estimate of the remaining life and capacity in cyds of the landfill will be reported annually to the FDEP.

### 19.1 Water Quality Monitoring

Enterprise RDF will conduct the required initial and semi-annual groundwater monitoring at the sites' monitoring wells as described in the sites' Groundwater Monitoring Plan. Semi-annual reports of this monitoring will be submitted to Pasco County and FDEP in accordance with this plan. Quarterly monitoring will also be conducted and reported at specific wells per Pasco County conditions. The potable supply well will be monitored semi-annually once disposal operations begin in Cell 2.

### 19.2 Landfill Operating Records

The operating record for the landfill will document daily as a minimum the following activities:

- Self inspections of landfill conditions, safety equipment and unacceptable waste received, any odor detected;
- Records used to develop permit applications;
- Change in construction, operation or closure permits and all supporting designs;
- Water quality sampling events, analytical reports, well installation or repair;
- Employee training;
- Facility construction, major maintenance, or demolition;
- Other activities that significantly affect facility operations.

The Operating Record will be kept at the landfill and be accessible to the landfill operators to maintain and for FDEP or Pasco County inspection at reasonable times.

Operational records will be maintained for the design life of the landfill. Water quality monitoring information, maintenance records, and permit reports will be maintained for a minimum of 10 years. Background water quality records will be maintained for the design period of the landfill.

## 20.0 EROSION CONTROL

The site's inherent design as an excavation pit will prevent stormwater from leaving the property. Stabilization by seeding and mulching of the final fill areas will occur as the fill operations progress from cell to cell.

## 21.0 FINAL GRADE PLAN

Final grade plan of the facility is shown on the plans (Figure 3-10 (C-5)) and in the cross-sections (Figures 3-8 (C-3) and 3-9 (C-4)). The mixed areas will be brought to the approved Landfills bottom grade prior to accepting any waste material. The finished elevation after all fill material has been placed and final cover provided is designed to reclaim excavated areas back to the grade which existed prior to the site being opened as a mine with allowance for positive drainage.



## 22.0 CLOSURE AND LONG TERM CARE

The site's Reclamation and Closure Plan details the procedures to properly close and maintain the landfill during the 30-year post-closure period. A Closure Report will be prepared for the landfill that details the site-specific limitations for land use based on geotechnical stability (settlement), potential gas migration, and site access. Long-term maintenance of erosion controls, stormwater controls and monitoring devices is discussed in the Closure Plan, Section 7, of the permit application document.

## 23.0 CERTIFICATION

Laboratory testing and observation of cell floor conditions during cell construction completion shall consist of the following:

- In-place density testing for each 12-inch thick soil lift, based on laboratory proctor test results for the construction material, will be recorded by a properly trained technician.
- Thickness testing of each lift will be recorded at a minimum frequency of two tests per acre, per lift.
- Confirmation hydraulic conductivity testing of Shelby tube or drive cylinder samples of the compacted cell floor material will be performed at a minimum frequency of one test per lift, per acre.
- Observance for unstable areas such as limestone, sink holes and soft ground will be performed for each cell.

If the test data from a cell floor section does not meet the requirements of the anticipated conditions of the hydrogeological and geotechnical reports and the requirements of the facility construction permit, additional random samples may be tested from that cell section. If the additional testing demonstrates that the hydraulic conductivity meets the requirements, the cell will be considered acceptable. If not, that cell will be reworked or reconstructed so that it will meet these requirements.

Upon completion of construction of any cell within the disposal facility, the Engineer of Record shall certify to the FDEP on form 62-701.900(2) that the approved construction is complete and in accordance with the submitted plans. The operator will provide the completed form to the FDEP, along with the quality assurance test results described above, and arrange for an inspection prior to acceptance of Class III wastes into the constructed disposal area.

#### 24.0 HISTORY OF ENFORCEMENT ACTION

A short form consent order was executed in 2004 to resolve a warning letter issued by the Department for a permitted recycling facility in Largo, Florida, owned by Angelo's.

REVISED FIGURES AND PLAN SHEETS

\\DWG\1999\99.0331.015\331016F3-17.DWG

Plotted: Aug 05, 2004 - 3:21pm by rcc

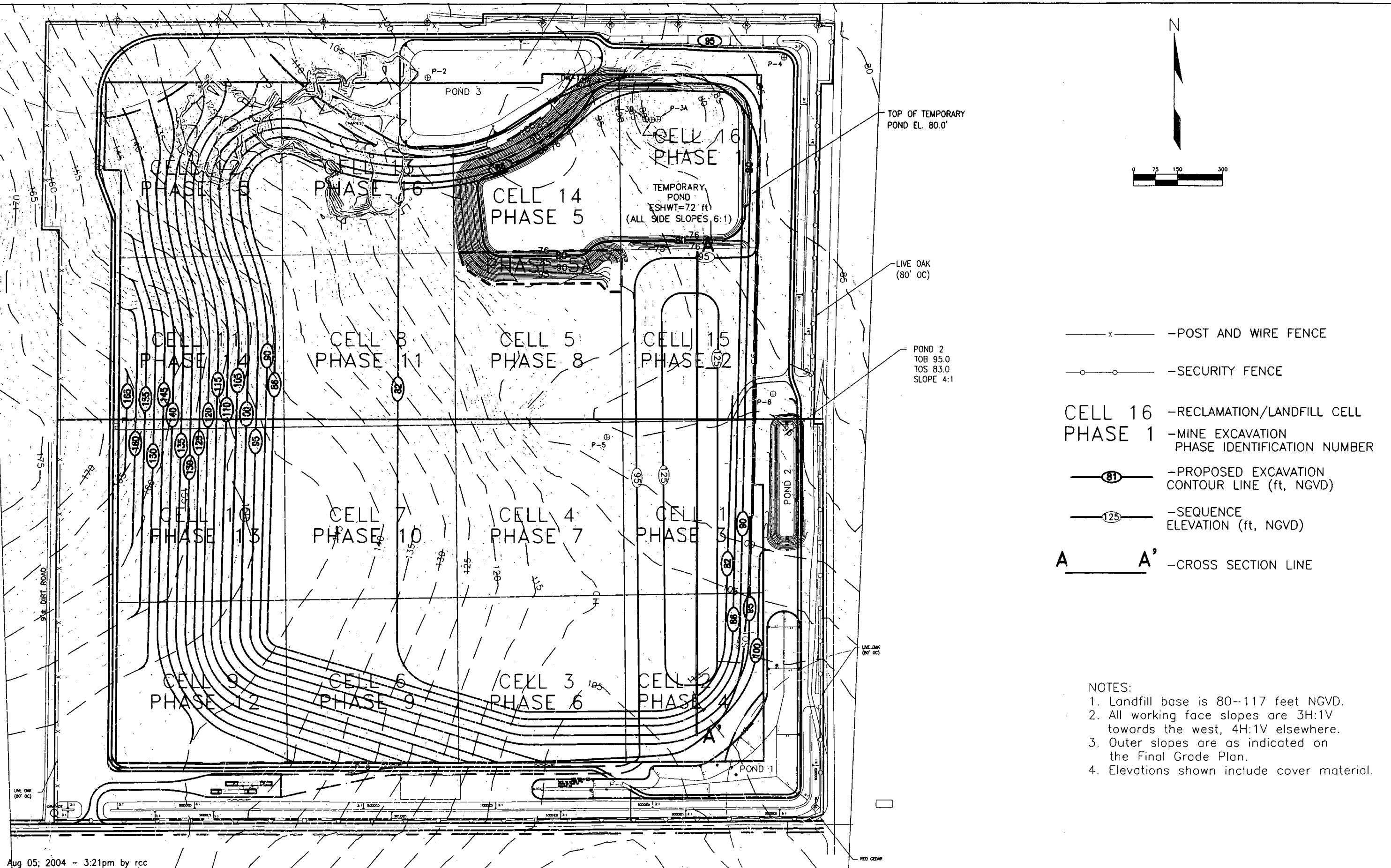


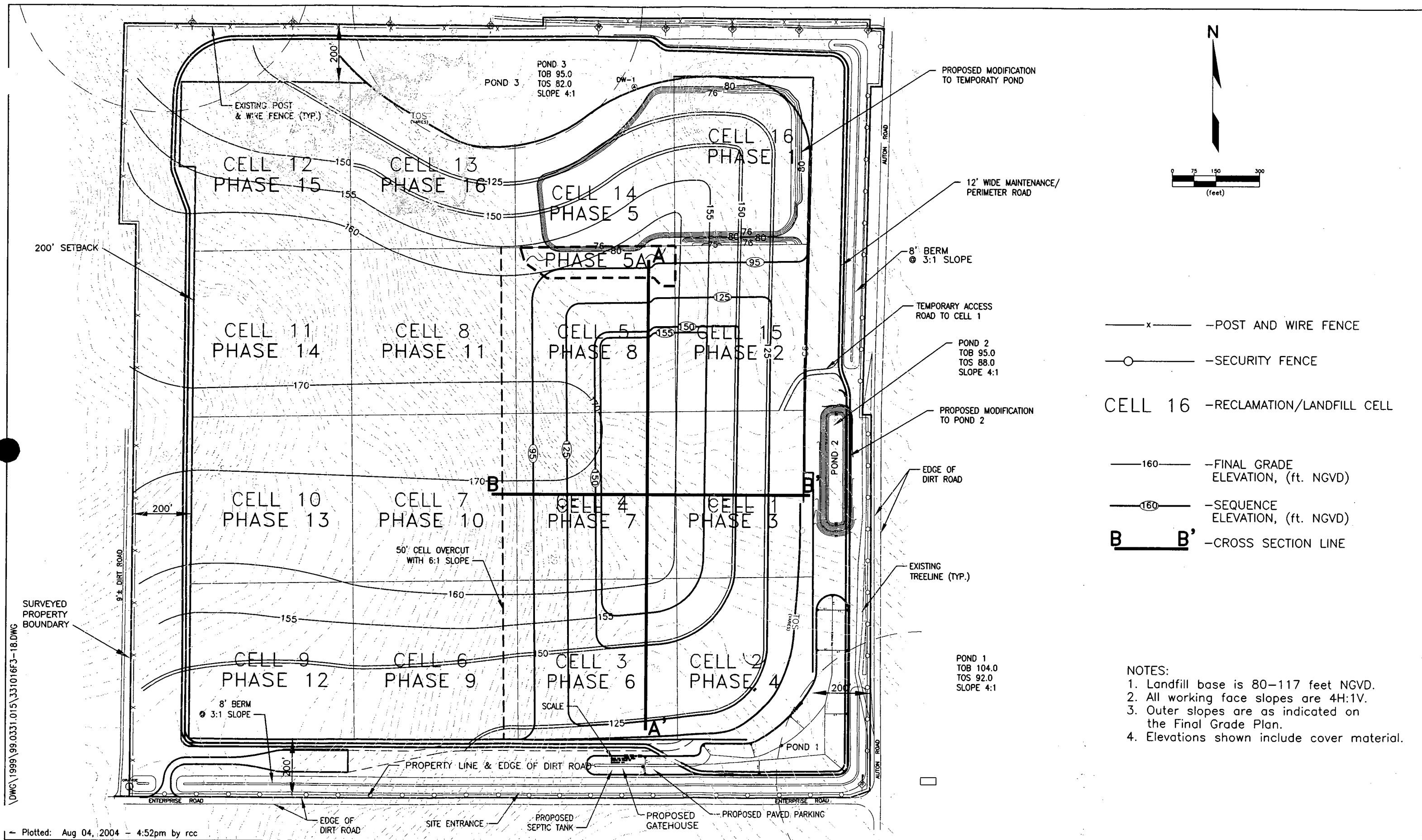
**HARTMAN & ASSOCIATES, INC.**  
engineers, hydrogeologists, surveyors & management consultants

201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801  
TELEPHONE (407) 839-3955 - FAX (407) 839-3790

CELL SEQUENCING PLAN - SEQUENCE 1  
ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

FIGURE  
3-17





Plotted: Aug 04, 2004 - 4:52pm by rcc

N:\CAD\DWG\1999\99.0331.015\331016F3-26.DWG

Plotted: Aug 05, 2004 - 3:24pm by rcc

FIGURE  
3-26



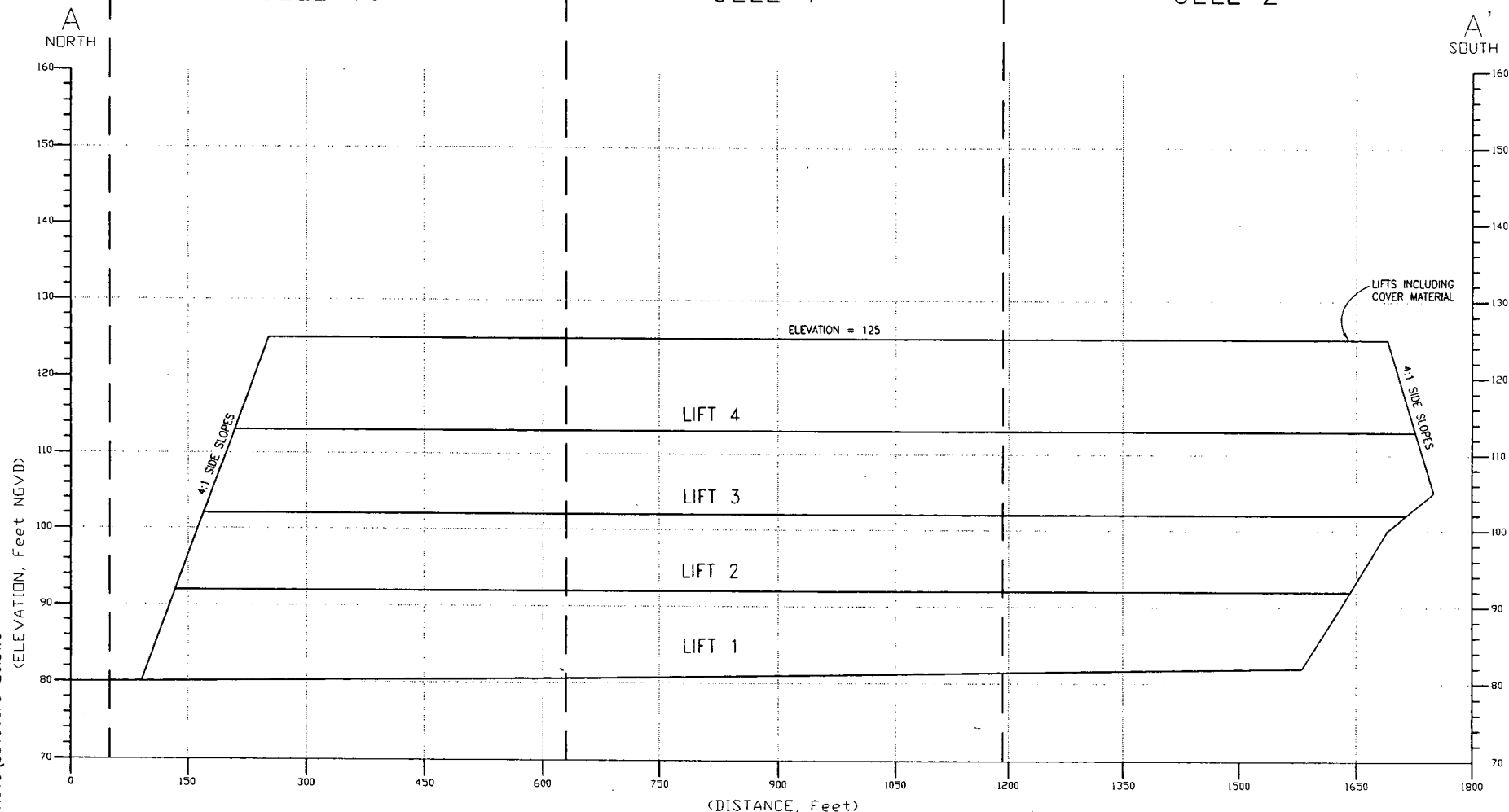
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NORTH-SOUTH CROSS-SECTION SEQUENCE 1  
ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

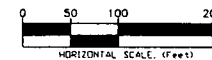
(ELEVATION, Feet NGVD)

(DISTANCE, Feet)



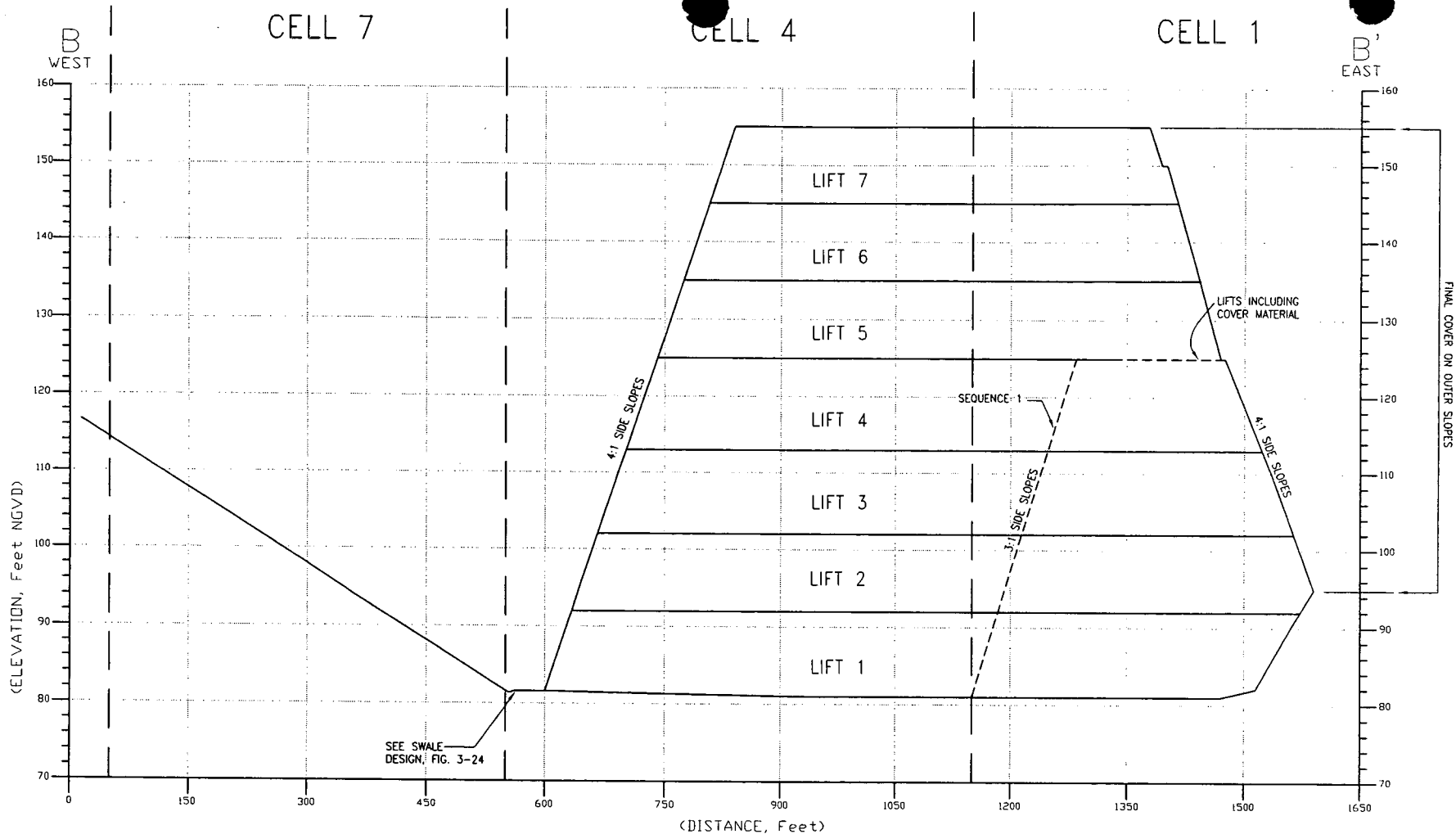
Note:

1. Lifts will be graded slightly to promote stormwater runoff to the swale.
2. Lift grading shown is approximate.



VERTICAL SCALE: 1" = 20'

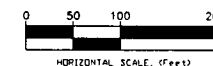
N:\CAD\DWG\1999\99.0331.015\331016F3-27.DWG



Notes:

1. Lifts will be graded slightly to promote stormwater runoff towards the north, the direction of the swale and temporary stormwater pond

2. Grading in the north-south direction is not shown on the east-west cross-section



VERTICAL SCALE: 1" = 20'

Plotted: Aug 05, 2004 - 3:28pm by rcc

FIGURE  
3-27



**HARTMAN & ASSOCIATES, INC.**

engineers, hydrogeologists, surveyors & management consultants

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TELEPHONE (407) 839-3955 - FAX (407) 839-3790

WEST-EAST CROSS-SECTION SEQUENCE 1 & 2  
ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA

N:\CAD\DWG\1999\99.0331.015\331016F3-28.DWG

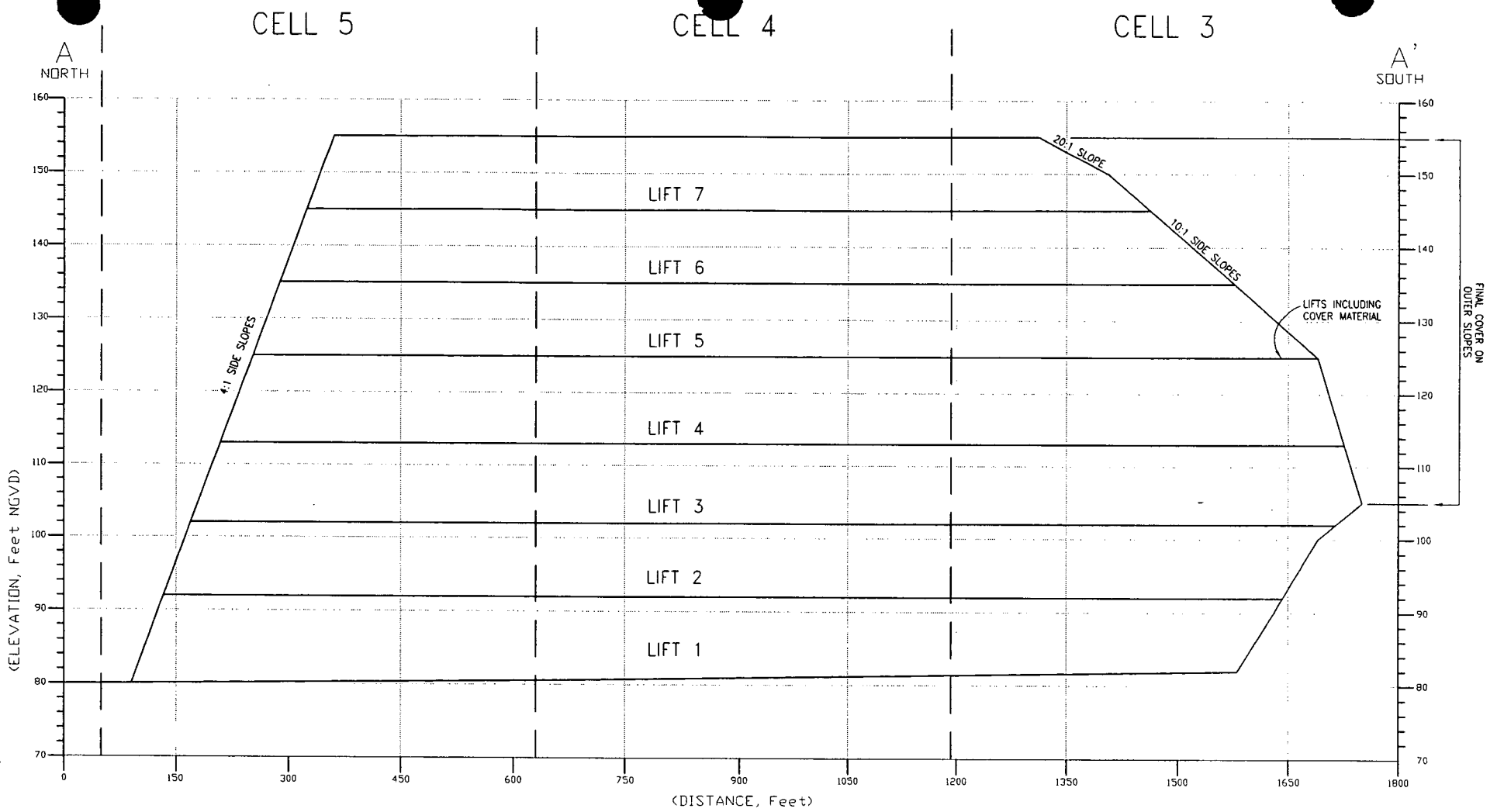
Plotted: Aug 05, 2004 - 3:25pm by rcc

FIGURE  
3-28

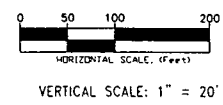


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TELEPHONE (407) 839-3955 - FAX (407) 839-3790

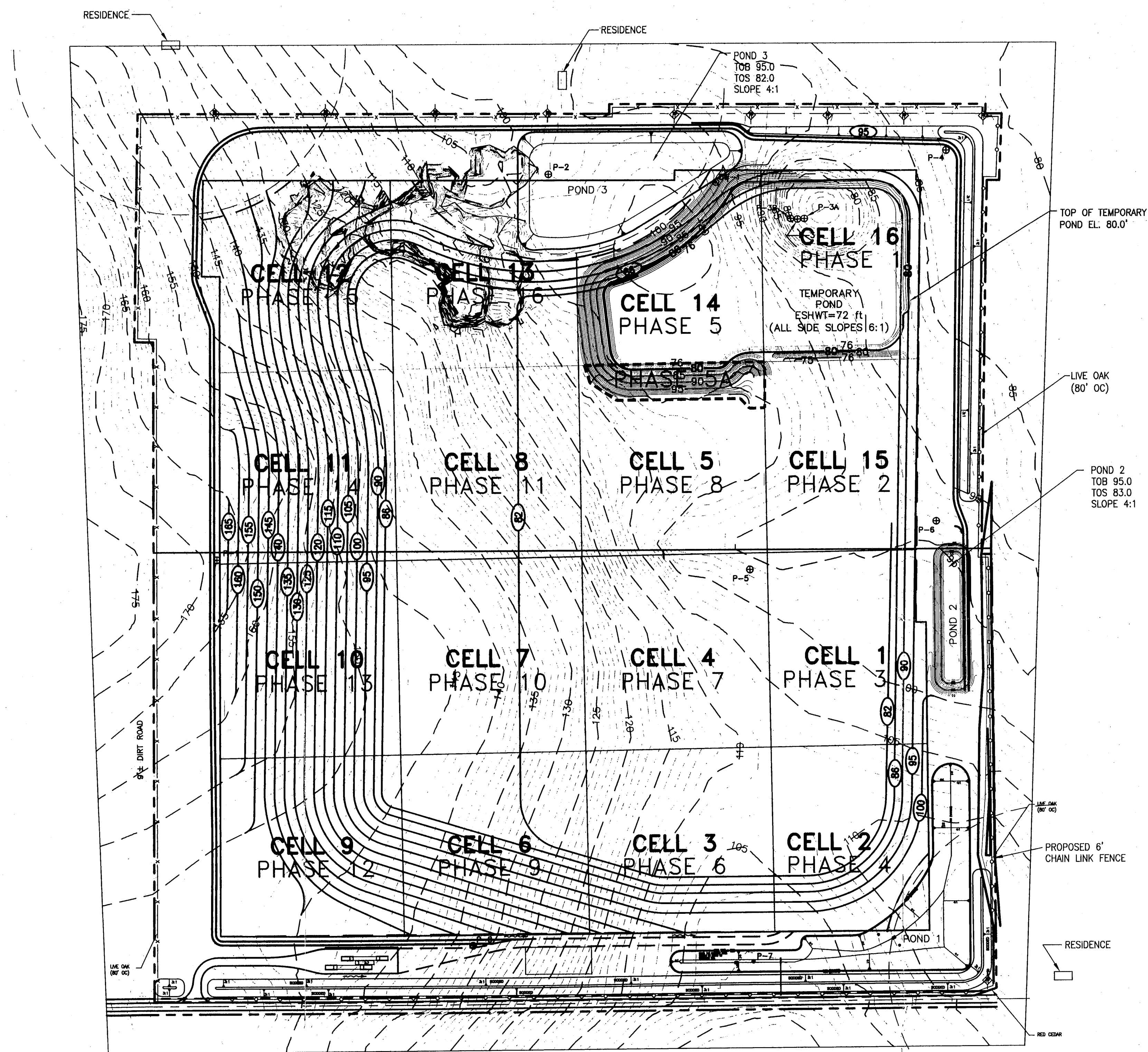
NORTH-SOUTH CROSS-SECTION SEQUENCE 2  
ENTERPRISE RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA



- Note:
1. Lifts will be graded slightly to promote stormwater runoff to the swale.
  2. Lift grading shown is approximate.







## LEGEND

- x — x — x — x — POST & WIRE FENCE
- o — o — o — o — SECURITY FENCE
- EXISTING CONTOUR LINE (ft, NGVD) 3/31/2000
- 108 — PROPOSED EXCAVATION CONTOUR LINE (ft, NGVD)
- B — B — LINE OF CROSS SECTION
- ⊕ P-1 PIEZOMETER LOCATION
- ⊕ DW-1 EXISTING WELL BY OTHERS
- EXISTING POST & WIRE FENCE
- CELL 1 PHASE 1 LANDFILL CELL
- EXCAVATION PHASE
- LANDFILL SETBACK LINE

Site	Stratum		Volume Table: Unadjusted		Fill	Net
	Surf1	Surf2	yards	Cut		
ENTERPRISE ROAD MINE	combined	eg FG-MINE	4351704		4637572	8989276

## NOTE:

- 1.) 6:1 MINE SLOPES TO BE CUT BACK TO 2:1 SLOPES PRIOR TO THE RECLAMATION BY LANDFILLING.
- 2.) DURING THE EXCAVATION PHASE, POND 3 WILL MAINLY RECEIVE THE OFF-SITE RUNOFF AND ALSO THE RUNOFF FROM THE AREAS OUTSIDE THE LANDFILL SETBACK LINE.

PLAN VIEW  
SCALE: 1" = 200'

R:\CAD\DWG\1999\99-331\01\PHASE 5\PLAN C-2.DWG

Plotted: Aug 05, 2004 - 1:37pm



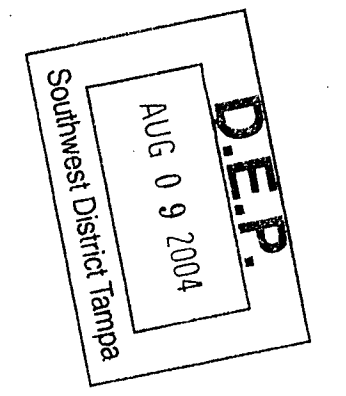
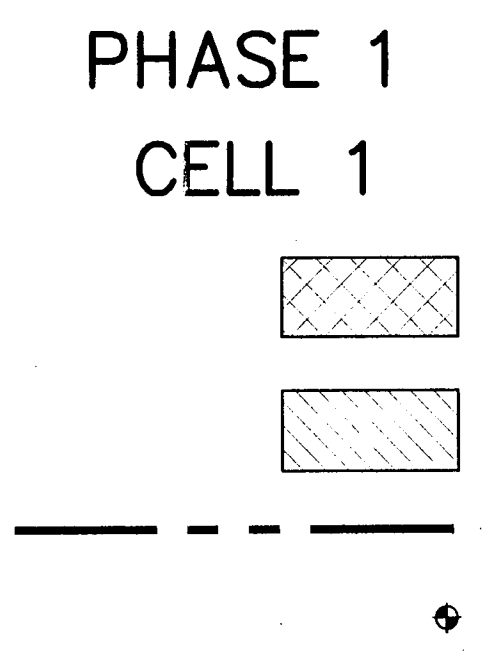
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engineers, hydrogeologists, surveyors & management consultants  
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TELEPHONE (407) 839-3955 - FAX (407) 839-3790

**ANGELO'S AGGREGATE MATERIALS, LTD.**  
PASCO COUNTY, FLORIDA

**ENTERPRISE RECYCLING &  
DISPOSAL FACILITY  
MINE EXCAVATION PLAN**

Roderick K. Coats, P.E. P.E. No. 45169, FL 201 East Pine Street Orlando, Florida 32801 Engineering Business No. 5814		BY	DATE	PROJECT NO.
DESIGNED		JEG	4/00	99-331.01
DRAWN		TJL	4/00	SCALE
CHECKED		RKC	4/00	1" = 200'
QC APPROVAL				<b>C-2</b>
DATE	REVISIONS	REVISED	CHECKED	DATE
8/04	REVISE PHASING, ADD REVISED FEATURES	RCC	JLD	8/6/04
11/00	EXPAND TEMPORARY POND	ACD	RKC	
8/00	PER PASCO COUNTY SETBACKS	JEG	RKC	
FILE: C-2.DWG		SHEET — OF —		

Hartman & Associates, Inc.  
201 E. Pine St., Suite 1000  
Orlando, FL 32801  
Engineering Business #5814  
Roderick K. Coats, P.E.  
Florida Registration #16104  
000005852  
Solid Waste Items



C-1	SITE PLAN	G-1	GENERAL NOTES AND CROSS SECTIONS
C-2	EXCAVATION PLAN	L-1	LANDSCAPE PLAN (1"=50')
C-3	SITE CROSS SECTIONS	L-2	LANDSCAPE PLAN (1"=50')
C-4	SITE CROSS SECTIONS	L-3	LANDSCAPE PLAN (1"=50')
C-5	FINAL GRADING PLAN	L-4	LANDSCAPE PLAN (1"=50')
C-6	LANDSCAPE PLAN		

Hustman & Associates, Inc.  
 201 E. Pine St., Suite 1000  
 Orlando, FL 32801  
 Engineering Business #5814  
 Roderick K. Cashe, P.E.  
*R. K. Cashe*  
 Florida Registration #45109

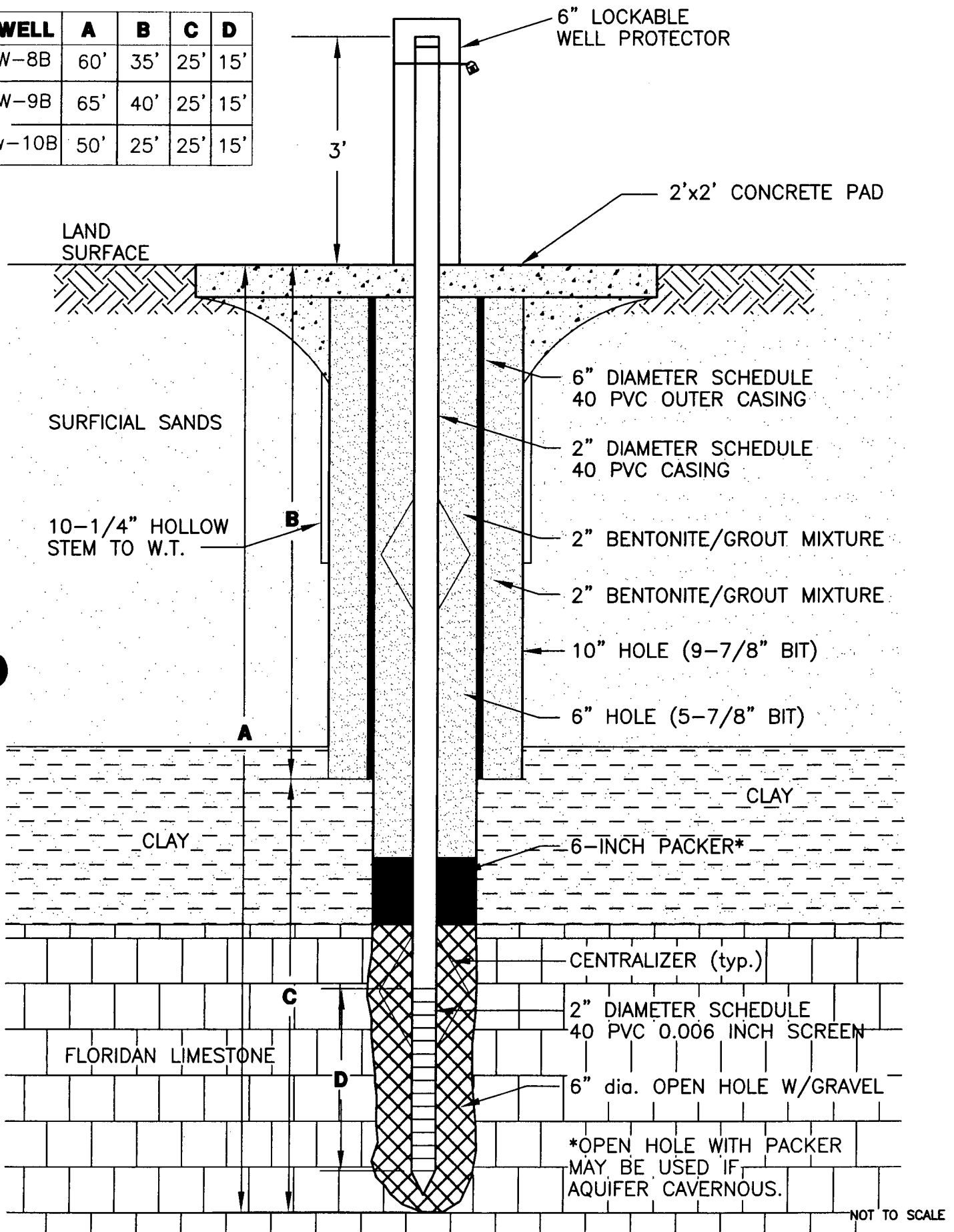
R:\QAD\DMG\1999\99-331.01\PHASE 5\FINAL\C-1.DWG  
Plotted: Aug 05, 2004 - 1:40pm

# ENTERPRISE RECYCLING & DISPOSAL FACILITY SITE PLAN

						BY	DATE	PROJECT NO. 99-331.01
8/04	ADD APPROVED TEMP POND	MAG	JLD		DESIGNED	JEG	4/00	SCALE 1" = 200'
3/01	ADD PRIVATE WELLS, NOTE 4	JLD	JEG		DRAWN	TJL	4/00	C-1
11/00	EXPAND TEMPORARY POND	ACD	RKC		CHECKED	RKC	4/00	
8/00	PER PASCO COUNTY SETBACKS	JEG	RKC		QC APPROVAL			
DATE	REVISIONS	REVISED	CHECKED	DATE	FILE: C-1.DWG		SHEET — OF —	

PROPOSED MONITOR WELL DETAILS

WELL	A	B	C	D
MW-8B	60'	35'	25'	15'
MW-9B	65'	40'	25'	15'
MW-10B	50'	25'	25'	15'



**HARTMAN & ASSOCIATES, INC.**  
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 201 EAST PINE STREET - SUITE 1000 - ORLANDO, FL 32801  
 TELEPHONE (407) 838-3955 - FAX (407) 838-3790

**PROPOSED FLORIDAN MONITOR WELL DESIGN  
 ENTERPRISE RECYCLING  
 AND DISPOSAL FACILITY  
 DADE CITY, FLORIDA**

**FIGURE  
 2**



# HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## FIELD BORING LOG

MGALCITA

B-8

1 of 2

DEPTH (FT)	SAMPLE			BLOWS PER 6"	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO/TYPE	SYMBOL	% REC.						
1	1		2				SAND, BROWN, MED. TO FINE SAND, WELL SORTED, ORG. MATTER		ORGANICES (ROOTS, ETC.)
5	2		1	12	1		CLAYEY-SAND, TAN-ORANGE, FINE TO V. FINE GRAIN, WELL SORTED, SOFT, SMALL AMT. OF CLAY.		
10	3		2		22		CLAYEY-SAND, TAN-ORANGE, MED TO V. FINE GRAIN, FIRM.		MOTTLED COLOR CLAY-ORANGE
15	4		1		19		SILTY-CLAY, TAN & ORANGE (MOTTLED), MED TO ST, V. FIRM.		
20	5		1		12		SILTY-CLAY, YELLOW-TAN & ORANGE (MOTTLED), V. FIRM.		FE ORANGE STAINING.
25	6		3		16		SILTY-CLAY, CRUMBLY-TAN, MED TO ST, V. FIRM.		
30	7		2		12		SANDY CLAY, TAN & ORANGE (MOTTLED), V. FIRM.		

**PROJECT**  
NUMBER: ~~499~~ - 033104  
NAME: ENTERPRISE  
RD LF  
CLIENT: ANGELUS AGG. M  
LOCATION: DADE CITY, FL

**BORING**  
GR. ELEV.: ~  
DIA-TYPE: 35/6" - MK  
DEPTH: 45'  
DATE STARTED: 4-4-03  
DATE ENDED: 4-7-03

**GROUNDWATER**  
DEPTH: \_\_\_\_\_  
TIME: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REMARKS: \_\_\_\_\_

**DRILLING**  
RIG TYPE: CMR 45  
CREW: UES  
SUPERVISOR: L. PRINCE

**PIEZ/WELL**  
CASING DIAM.: \_\_\_\_\_  
CASING TYPE: \_\_\_\_\_  
CASING DEPTH: \_\_\_\_\_  
SCREEN DEPTH: \_\_\_\_\_  
SCREEN LENGTH: \_\_\_\_\_  
FILTER PACK: \_\_\_\_\_  
RISER HEIGHT ALS: \_\_\_\_\_  
T.O.C. ELEV.: \_\_\_\_\_

**REMARKS**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





# HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## FIELD BORING LOG

M. GARCIA

B-8

2 of 2

DEPTH (FT)	SAMPLE			BLOWS PER 6"	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO./TYPE	SYMBOL	% REC.						
35	8			5	6		SANDY CLAY, CLAY + ORANGE + BROWN (MOTTLED) VERY FIRM		SMALL SAND + FINE LS LENS @ 39.9'
40	9			12	12		SANDY CLAY FROM 38.5 - 39. SILT SANDY - CLAY FROM 39 - 40 LT TAN + ORANGE (MOTTLED) <del>VERY</del> FIRM		SAND LENSES
45	10			12	12		SILT - CLAY, TAN + ORANGE (MOTTLED), SOFT, EOB		
50									
55									
60									
65									
70									
75									
80									
85									
90									
95									
100									

**PROJECT**  
NUMBER: 99-0531-001  
NAME: ENTERPRISE  
RD. LE  
CLIENT: AAM  
LOCATION: DADE CITY  
**BORING**  
GR. ELEV.:  
DIA-TYPE: 3/6" - MR  
DEPTH: 45'  
DATE STARTED: 4-4-03  
DATE ENDED: 4-7-03  
**GROUNDWATER**  
DEPTH: 715'  
TIME:  
DATE:  
REMARKS: HOLE  
CAVED IN TO 16'  
**DRILLING**  
RIG TYPE: CME 45  
CREW: VES  
SUPERVISOR: L. PATRICE  
**PIEZ/WELL**  
CASING DIA.:  
CASING TYPE:  
CASING DEPTH:  
SCREEN DEPTH:  
SCREEN LENGTH:  
FILTER PACK:  
RISER HEIGHT ALS:  
T.O.C. ELEV.:  
**REMARKS**



# HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## FIELD BORING LOG

M6AUCIL

B-9

1 of 2

DEPTH (FT)	SAMPLE			BLOWS PER 6"	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO./TYPE	SYMBOL	% REC.						
1				20	5		SAND, BROWN, FINE GREEN, SOFT		ORGANICS (ROOTS, ETC)
5	2			10	3		CLAYEY - SAND, REDDISH-BROWN, FINE GREEN, SOFT		
10	3			20	20		CLAYEY - SAND, LT TAN + RUST-ORANGE (MOTTLED), FINE TO SPT, FIRM		
15	4			20	15		SILTY-CLAYEY - SAND TAN + ORANGE RUST + BROWN, MOTTLED, FIRM		
20	5			20	8		SILTY-CLAY, LT TAN + LT ORANGE + ORANGE (MOTTLED), VERY FIRM.		
25	6			20			SILTY-CLAY, LT TAN + ORANGE + BLACK (MOTTLED), V. FIRM.		
30				20			SILTY - SAND FROM 28.5'-29.5' TAN TO BROWN, FIRM TO V. FIRM. CLAYEY SAND FROM 29.5'-30' BROWN TO TAN, V. FIRM.		

**PROJECT**  
NUMBER: PA-0331-001  
NAME: ENTERPRISE  
RD. LF.  
CLIENT: ANGELO'S NGB. INC.  
LOCATION: DDE CITY, FL

**BORING**  
GR. ELEV.: ~ 111'  
DIA-TYPE: 376" - MR  
DEPTH: 45'  
DATE STARTED: 4-7-03  
DATE ENDED: 4-7-03

**GROUNDWATER**  
DEPTH:  
TIME:  
DATE:  
REMARKS:

**DRILLING**  
RIG TYPE: CME 45  
CREW: VES  
SUPERVISOR: L. PRINCE

**PIEZ/WELL**  
CASING DIAM.:  
CASING TYPE:  
CASING DEPTH:  
SCREEN DEPTH:  
SCREEN LENGTH:  
FILTER PACK:  
RISER HEIGHT ALS:  
T.O.C. ELEV.:

**REMARKS**



# HARTMAN & ASSOCIATES, INC.

engineers, hydrogeologists, surveyors & management consultants

## FIELD BORING LOG

MCALISTA

B-9

2 of 2

DEPTH (FT)	SAMPLE			BLOWS PER 6'	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO./TYPE	SYMBOL	% REC.						
35				6			Silty - sand, orange - rust, some film,		Fe HP fragments
40				22			Silty clay, tan + creamy tan + tan - orange (mottled), some firm,		LR frags.
45				48			TOTAL LOSS OF H <sub>2</sub> O CIRCULATION  Silty - sand from 43.5 - 44. Lentrock from 44 - 44.5 very hard, creamy white lentrock ELS		
50				1					
55									
60									

**PROJECT**  
NUMBER: 99 0331.001  
NAME: ENTERPRISE  
LF.  
CLIENT: AAM.  
LOCATION: DANE CITY.

**BORING**  
GR. ELEV.: 211'  
DIA-TYPE: 35 1/4" - MR  
DEPTH: 44' 4"  
DATE STARTED: 4-7-03  
DATE ENDED: 4-7-03

**GROUNDWATER**  
DEPTH: \_\_\_\_\_  
TIME: \_\_\_\_\_  
DATE: \_\_\_\_\_  
REMARKS: \_\_\_\_\_

**DRILLING**  
RIG TYPE: CME 45  
CREW: UES  
SUPERVISOR: L. PRINCE

**PIEZ/WELL**  
CASING DIAM.: \_\_\_\_\_  
CASING TYPE: \_\_\_\_\_  
CASING DEPTH: \_\_\_\_\_  
SCREEN DEPTH: \_\_\_\_\_  
SCREEN LENGTH: \_\_\_\_\_  
FILTER PACK: \_\_\_\_\_  
RISER HEIGHT ALS: \_\_\_\_\_  
T.O.C. ELEV.: \_\_\_\_\_

**REMARKS**  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





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## FIELD BORING LOG

MCALICA

B-10

1 of 2

DEPTH (FT)	SAMPLE			BLOWS PER 6'	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO./TYPE	SYMBOL	% REC.						
5				29	7		SAND, BROWN (DARK), MED. TO FINE GRAIN, WELL SORTED, SOFT.		ORGANICS (ROOTS, ETC.)
5				29	4		CLAYEY-SAND, BROWN-ORANGE, FINE TO V. FINE GRAIN, SOFT, INTERSTRAT. CLAY		
10				29	15		SILT CLAY, CREAMY TAN, SMALL AMT. OF MED. GRAIN SAND, FIRM.		
15				29	9		CLAYEY-SILT-SAND, LT. TAN + LT. ORANGE, SEMI-FIRM.		
20				29			SAND, TAN TO ORANGE, FINE TO SILT, SOFT, INTERSTRAT. CLAY.		
25				29			SILT CLAY FROM 23.5-24.5 LT. TAN + ORANGE (MOTTLED), V. FIRM. CLAY FROM 24.5-25. V. FIRM LT. TAN.		SMALL AMT. OF SAND (FINE)
30				29			SILT-SANDY-CLAY, LT. TAN, V. FIRM.		

### PROJECT

NUMBER: 99.0331-007

NAME: ENTERPRISE

RD. LF

CLIENT: AAM

LOCATION: DATE CITY

### BORING

GR. ELEV.: ~109'

OA-TYPE: 35/6" - MC

DEPTH: 43.5'

DATE STARTED: 4-7-93

DATE ENDED: 4-7-93

### GROUNDWATER

DEPTH:

TIME:

DATE:

REMARKS:

### DRILLING

RIG TYPE: CME 45

CREW: VES

SUPERVISOR: L. PRINCE

### PIEZ/WELL

CASING DIAM.:

CASING TYPE:

CASING DEPTH:

SCREEN DEPTH:

SCREEN LENGTH:

FILTER PACK:

RISER HEIGHT ALS:

T.O.C. ELEV.:

### REMARKS



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## FIELD BORING LOG

MGANCA

B-10

2012

DEPTH (FT)	SAMPLE			BLOWS PER 6"	N-VALUE	BORING LOG	MATERIAL DESCRIPTION CLASSIFICATION	WELL	REMARKS
	NO./TYPE	SYMBOL	% REC.						
35				34.5			Silty-clayey-sand lt tan + lt orange (mottled in some areas) very firm.		LS FRAC. MENT @ 34.5'-35'
40				51.0			Silty-clayey-sand, lt tan + orange + dr. orange (mottled), very firm.		LR. FRAC. FROM 38.5'- 40'
45				136.5			HARD MOTTLED (LIMESTONE) LIMESTONE, lt orange + lt tan, very hard, dense & brittle, ECS		
50									
55									
60									

### PROJECT

NUMBER: 91-031-001  
NAME: ENTERPRISE  
RD. LF  
CLIENT: AAM  
LOCATION: DODE CITY

### BORING

GR. ELEV.: ~ 109'  
DIA-TYPE: 3 1/2" - MA  
DEPTH: 43.5'  
DATE STARTED: 4-7-13  
DATE ENDED: 4-7-13

### GROUNDWATER

DEPTH:  
TIME:  
DATE:  
REMARKS:

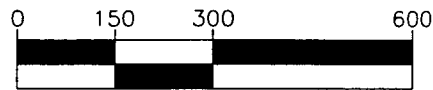
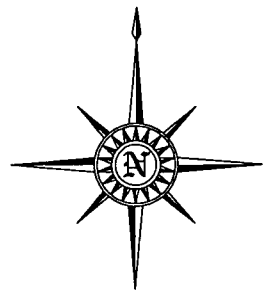
### DRILLING

RIG TYPE: QVE 45  
CREW: VES  
SUPERVISOR: L. PRINCE

### PIEZ/WELL

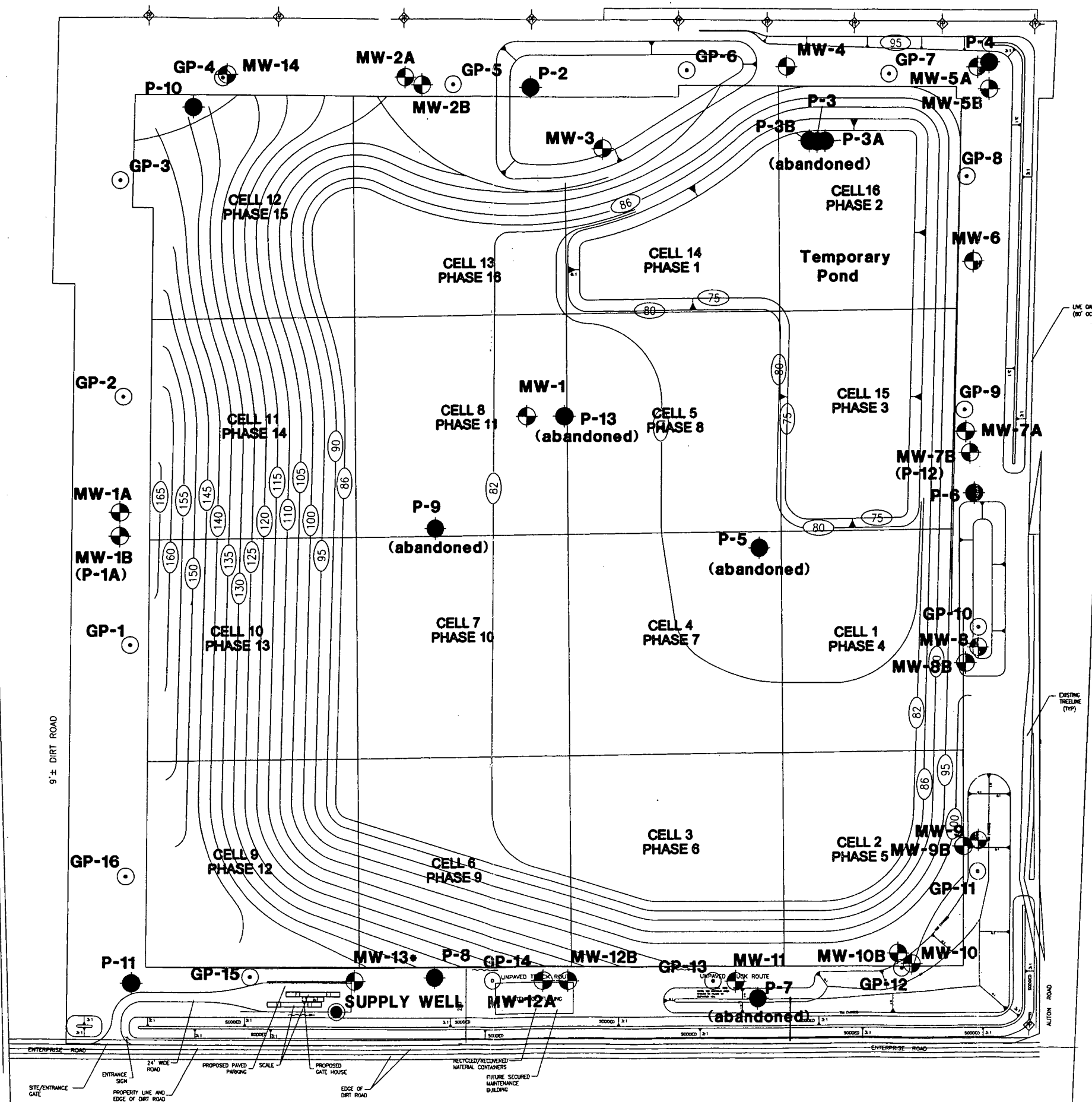
CASING DIAM.:  
CASING TYPE:  
CASING DEPTH:  
SCREEN DEPTH:  
SCREEN LENGTH:  
FILTER PACK:  
RISER HEIGHT ALS:  
T.O.C. ELEV.:

### REMARKS



# **LEGEND**

- MW-1 MONITOR WELL LOCATION
- GP-1 GASPROBE LOCATION
- P-9 PIEZOMETER WELL LOCATION
- SUPPLY WELL



2/1999 99.331.07/33107N01

**WELL LOCATION MAP  
ENTERPRISE ROAD RECYCLING AND DISPOSAL FACILITY  
DADE CITY, FLORIDA**

**FIGURE  
1A**

REVISED SECTION 7, TABLE 1

**Table 1**  
**Proposed Enterprise Recycling and Disposal Facility**  
**Life Expectancy Estimate**  
**Pasco County, FL**

<b>Cell/Phase</b>	<b>Surface Area (Acres)</b>	<b>Estimated <sup>(1)</sup> Cell Volume (CY)</b>	<b>Est. Annual <sup>(2)</sup> Waste Volume (CY)</b>	<b>Estimated <sup>(3)</sup> Cell Life (Yr)</b>
1/3	6.08	542,778.6	270,000	1.83
2/4	5.57	543,397.9	270,000	1.83
3/6	7.04	548,613.6	270,000	1.85
4/7	7.34	511,513.7	270,000	1.72
5/5A, 8	7.34	509,914.8	270,000	1.72
6/9	6.95	550,189.8	270,000	1.85
7/10	6.75	648,886.6	270,000	2.19
8/11	7.34	513,644.1	270,000	1.73
9/12	7.34	507,703.2	270,000	1.71
10/13	7.09	686,957.6	270,000	2.32
11/14	6.95	694,173.7	270,000	2.34
12/15	6.74	630,019.4	270,000	2.12
13/16	5.19	523,015.5	270,000	1.76
14/5	5.78	523,512.4	270,000	1.76
15/2	6.00	527,715.2	270,000	1.78
16/1	6.23	527,139.8	270,000	1.78
<b>TOTALS</b>	<b>105.73</b>	<b>8,989,275.9</b>		<b>30.3</b>

(1) Based on 3/00 topographic survey, designed base excavation grades, 2H:1V side slopes.

(2) In place waste volume (1:7:1 compaction ratio) based on similar Florida landfills, actual disposal rates will vary.

(3) Based on cell volumes without airspace for 800,000 CY of cover material.